SPECIAL REPORT TO MANAGEMENT

January 20, 1969

RAILWAY AGE

THE TRANSPORTATION WEEKLY

1969 OUTLOOK

1968 REVIEW

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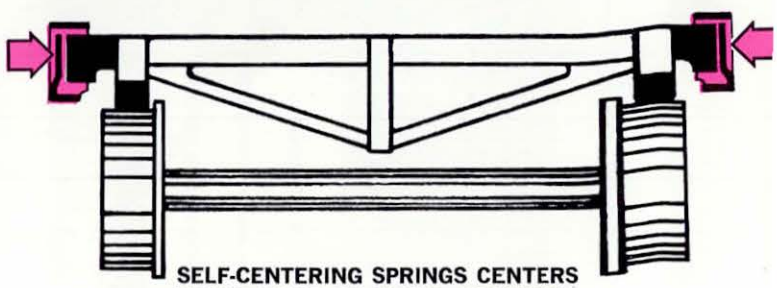

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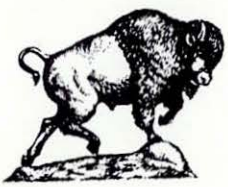

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RAILWAY AGE

Jan. 20, 1969 • Vol. 166, No. 2

THIS WEEK

1969 OUTLOOK

25 It all adds up to a $4-billion market

27 Equipment spending to rise sharply

34 Trouble lurks on the labor front

36 All signals are "go" for a busy '69

45 Stepped-up activity seen in M/W field

50 Common ownership may get big '69 push

1968 REVIEW

52 Review of 1968 railway operations

80 Statistical review of 1968

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DEPARTMENTS

99	Freight Carloadings	7	Short and Significant
12	Lines on Labor	106	Viewpoint
8	Monday Morning Report	79	Watching Washington
99	New Equipment	11	Week at a Glance
103	New Products Report	102	You Ought to Know

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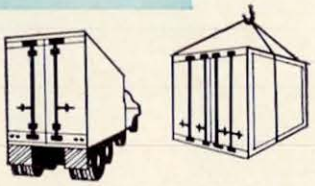

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SHORT AND SIGNIFICANT

Union Pacific will double spending in '69

Union Pacific has now increased its new-equipment budget for 1969 to $115 million, from a previously announced $105 million. This will be more than double the $57 million UP spent in '68.

North Western's "Fastfax" system goes to work

Chicago & North Western customers are getting faster than ever service now on tracing and other inquiries—thanks to development of C&NW's "Fastfax" computer-communications system, built around four RCA Spectra 70 computers. Included in the installation are three Spectra 70/45 computers and a 70/35 system along with 45 remote visual-display units for instant information retrieval. As C&NW's sales and marketing vice president, John J. Kane, put it, the new system will provide "a level of customer service in which we can do in seconds what used to take hours" (RA, June 24, 1968, p. 44).

CSS&SB in trouble, IC lends a hand

Chicago South Shore & South Bend, plagued by equipment failures, has turned to Illinois Central for help—and IC has come through with lease of six passenger cars. Winter weather has been the villain for CSS&SB: On one recent day, 27 of its 64 cars were out of service, including 24 of 50 power cars. South Shore President James B. McCahey, Jr., hailed IC's action in leasing cars: "This sacrifice makes it necessary for them to double up on some of their remaining consists." But, he said, the only long-term solution to his road's problem will be acquisition of new equipment with federal financial help—and this can come about only if the Indiana General Assembly creates a qualified transportation authority to apply for aid.

Passenger issue reaches Congress through new bill

U.S. Rep. Thomas M. Pelly (R.-Wash.) last week introduced in the House a bill that would authorize the Federal Railroad Administrator to set standards for the "comfort, safety and convenience of railroad passengers." Provisions include a fine of $1,000 a day for railroads who don't meet the standards as well as power for the Administrator to hire personnel for enforcement. "It is a sad commentary on railroad management that frequently passenger trains are being run without heat, with windows so dirty it is difficult to see through them, and with carpets so dirty it looks as though weeks have passed during which time they have not been cleaned," Pelly said.

Illinois U. will be scene of safety meet

The University of Illinois at Champaign will host a crossing-safety conference Feb. 11-13. Problems, progress and prospects will be the theme. Co-sponsors are the Department of Transportation and the Highway Research Board. The University's traffic safety center is host. Opening speaker will be William B. Johnson, Illinois Central president. Participants include government, industry, labor, research, and supply representatives.

New date set for exceptions to C&NW-Milwaukee

The new deadline for filing exceptions to an Interstate Commerce Commissioner's recommendation of Milwaukee-Chicago & North Western merger is March 31. The former date was Jan. 18. Union Pacific, Southern Pacific, Rock Island, and Soo Line asked for the extension.

Alco Forge and Spring sold to Edgewater Corp.

The Latrobe, Pa., facilities of Alco Forge & Spring, a unit of Studebaker-Worthington, Inc., have been sold to Edgewater Corp. which will operate them as Latrobe Forge & Spring. This is the first component of former Alco Products to be sold by S-W, which recently announced that its corporate restructuring involved disposal of Alco properties, including Alco Locomotive (RA, Jan. 6/13, p. 12), if possible as "going-concern" operations.

MONDAY MORNING REPORT

FOR THE PUBLIC, HIGH-SPEED COMFORT

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FOR PENN-CENTRAL, A HIGH-SPEED GAMBLE

For Penn Central, Metroliner is a gamble that so far involves $46 million. On the preview train, Stuart T. Saunders, P.C. chairman, tells a Congressman: "We definitely think there's a market for this." To serve the Metro there are 3,000 specially trained employees. Information-reservation personnel in seven cities answer phones before two rings. In new advertising (including full-page ads in eastern papers last week—and when did anyone last see a Penn ad?) PC becomes the "route of the Metroliners." Though just six cars are starting off (one three-hour trip each way daily), 14 more cars are in final preparation, while 10 await acceptance. These 30 have General Electric power. Another 20 with Westinghouse Electric power are still being tested by Budd, the builder.

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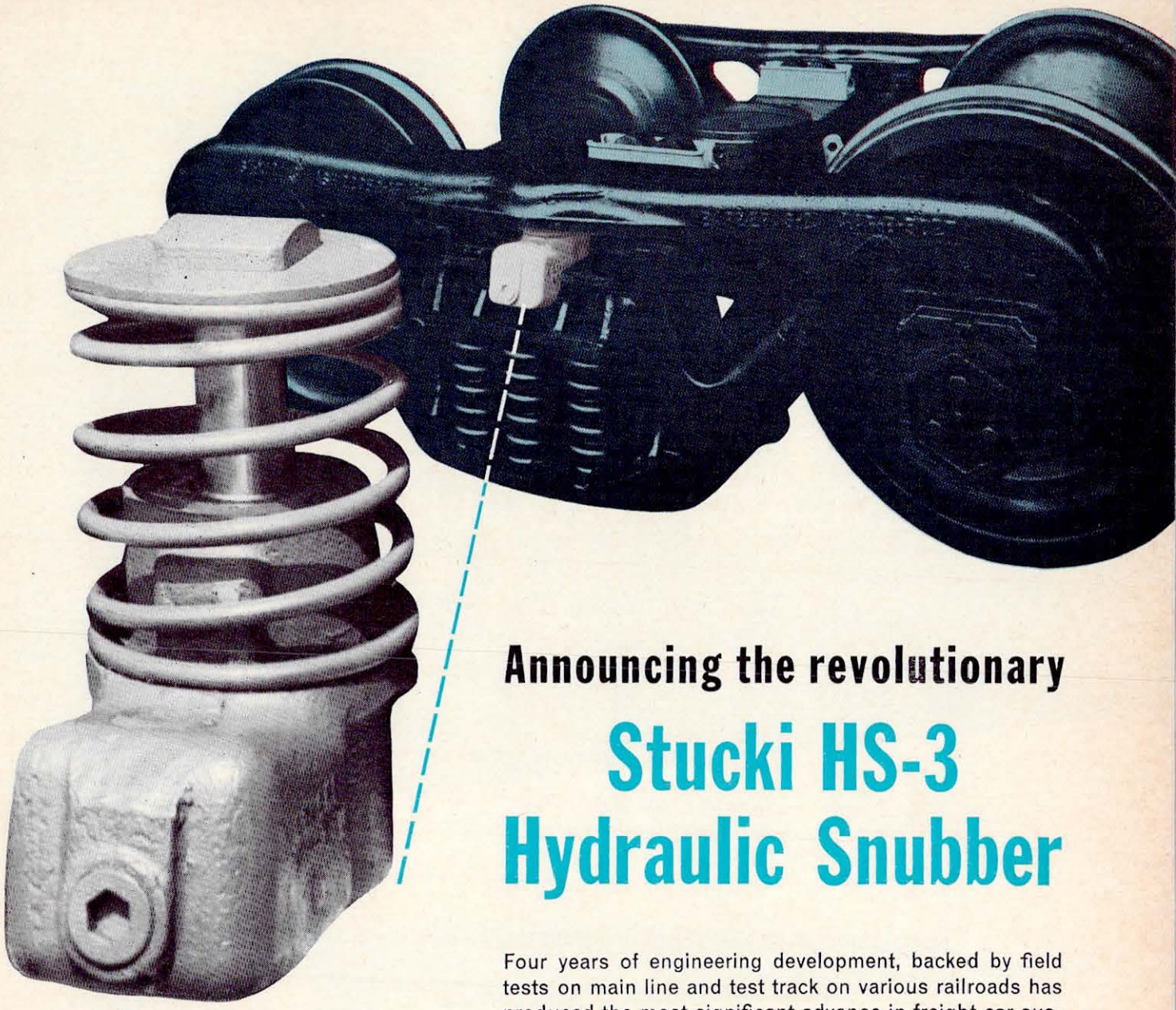

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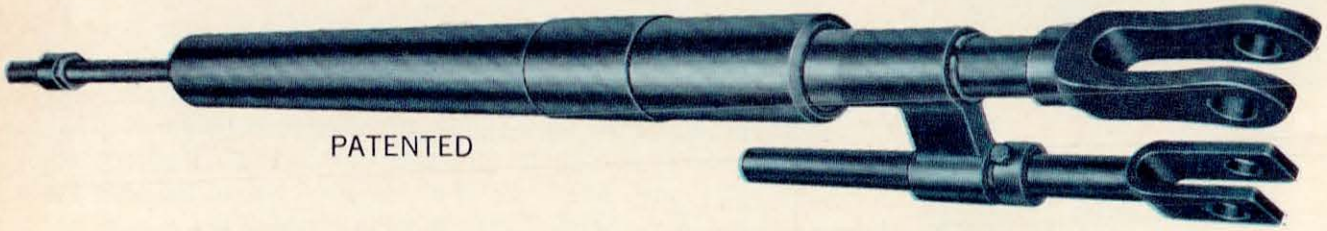

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WEEK AT A GLANCE

Fireman case released; next step, arbitration or...

The core dispute in the whole work-rules case is up for grabs once again, with release of the fireman-manning controversy by the National Mediation Board and the proffer of arbitration to the railroads and the Brotherhood of Locomotive Firemen & Enginemen. And so the crisis clock starts ticking again, in this 10-year-old labor-management confrontation. Speculation is that arbitration will be accepted, conditionally or otherwise, by the carriers, and rejected by the organization. Rejection would leave the parties free to resort to self-help 30 days after release of the case—which could set the stage for still another impartial-board hearing of the dispute.

Since it began in 1959, the dispute has been studied by three such public boards—first, by a Presidential Railroad Commission and then by an emergency board, each with the power only to recommend solutions; and then by an arbitration board created by act of Congress. Three Presidents — Eisenhower, Kennedy and Johnson—have been involved in one aspect or another of the case, and as of Jan. 20, Richard Nixon will be in line to have his name added to the list.

Goodfellow pushes common ownership for railroads

Laws against rail diversification into other transport modes "have got to change," Thomas M. Goodfellow, AAR president, told the Traffic Club of Chicago and the Mid-West Shippers Advisory Board at a joint luncheon in Chicago last week. Rails have labored under regulation geared to a transport monopoly gone from the industry for many years, Goodfellow said. "The need grows and grows for combined transportation service . . . but outdated laws and restrictive interpretation block this development." This, plus relief from tax and subsidy inequities, is needed to keep rails from being "dragged under by a powerful flow of forces and circumstances." Technology isn't enough, Goodfellow said.

Court won't review BLE-BLF&E dispute

The U.S. Supreme Court has declined to consider appeals from lower-court rulings in a complex case growing out of representation of locomotive engineers on the Terminal Railroad Association of St. Louis. Bargaining agent for TRRA engineers has been the Brotherhood of Locomotive Engineers on contract matters, and since 1965 the BLE has represented engineers on individual grievance matters. Engineers who are members of the Brotherhood of Locomotive Firemen & Enginemen challenge the BLE and TRRA, arguing that individual employees can choose their own representatives on grievance matters. It was an Appeals-Court ruling upholding this argument that the high court declined to review.

Golden Spike steam train will run to Utah

For anyone with $995, and a yen to travel across the continent behind a steam locomotive, there's good news from the High Iron Company of Lebanon, N.J. High Iron will run a "Golden Spike Centennial" excursion train out of New York May 3 on a 15-day trip to Utah and back. Highlight of the journey will be reenactment of the driving of the Golden Spike at Promontory Summit near Ogden on May 10—the 100th anniversary of the event that marked the completion of the first transcontinental railway system. The train will be made up of five modern coaches, a twin-unit diner, a parlor-dome car, an observation car and three baggage cars (the latter containing exhibits depicting the past and future of railroading)—but for those answering the "All Aboard!" cry it will be what's up front that counts—a 1944-model Berkshire-type steam locomotive, No. 759, originally built to haul 100-car freight trains for the Nickel Plate. Overnight stops are planned in Buffalo, N.Y.; Cleveland; St. Louis; Kansas City; Cheyenne and Rawlins, Wyo.; Salt Lake City; Lima, Ohio; Pittsburgh; and Hagerstown, Md., in that order. Inquiries should be addressed to the High Iron Co., Inc., Box 200, Lebanon, N.J. 08833. Space will be sold first come first served.

GUS WELTY

LINES ON LABOR

THOUSANDS OF WORDS were written and spoken in 1968 about railroads and their management-labor relations. Some words were hopeful, some ominous in tone. Some seemed sincere, some had the ring of the phony. Some words carried their meaning clearly, some almost defied interpretation.

AMONG THE MOST PUZZLING WORDS were written by Emergency Board 172 in the crew-consist case. To more than a few observers, the whole report was a puzzle. But special concern might be attached to two sentences, buried down on Page 10 of the report: "Of course there is a public interest in the terms of a collectively bargained agreement. But under the particular facts and circumstances of this case, the primary public interest here would appear to be not so much in the terms of the agreement, as such, as in the final resolution of this prolonged dispute through free collective bargaining."

"PEACE AT ANY PRICE" may not be what the board meant. But its whole approach seemed to smack of that philosophy. The board put the dispute into no context but its own. And the chosen context went little farther than to say, in effect, "well, fellows, you'd better settle this thing—because everybody else has." There was no attempt to judge the rightness of either side's demands. There was no attempt to assess the impact of either side's demands upon the public interest, primary or otherwise.

PERHAPS THE BOARD did not mean to say that muscle should win, though collective bargaining in the railroad industry has often meant just that. Perhaps the board really did feel unqualified to judge manpower needs, though it had evidence at hand while past boards have had only theory. Perhaps the board was convinced that the ability of the railroad industry to modernize was not at stake in this "little" dispute. Perhaps the board could see no "primary public interest" in the provision of efficient and economic service—no interest, at least, that could compare with the assumed interest in free collective bargaining.

IT REMAINS TO BE SEEN, where the public's interest actually lies in any labor dispute involving a key service industry. Labor's rights cannot be flushed down the drain. Neither can management's. But pragmatically, the public's interest has to be regarded as paramount. And it's difficult to imagine a "primary public interest" consistent with wasteful and inefficient operation in transportation.

Court order halts strike against L&N in crew-size case

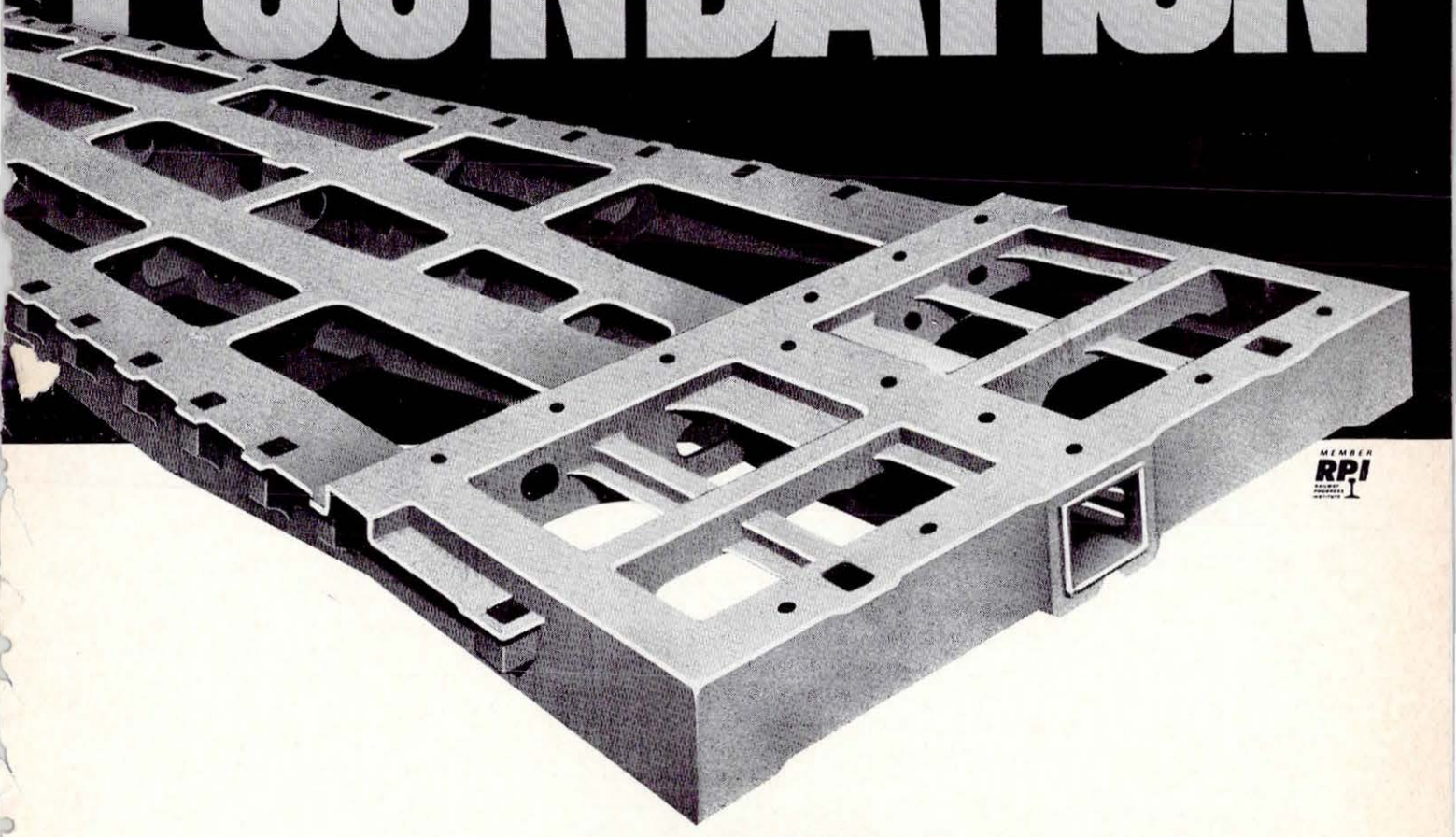
The crew-consist dispute boiled over on Louisville & Nashville for the second time last week—and for the second time, a strike by trainmen was quickly ended. In November, a walkout by the Brotherhood of Railroad Trainmen was halted by President Johnson's creation of an emergency board. But the 30-day no-change period following the board's report expired Jan. 12, the BRT resumed the strike at 6:30 a.m. Jan. 13, and L&N was forced to go into U.S. district court for a restraining order to get operations moving again. Basis for the railroad's suit was that the union (now part of the United Transportation Union) has not bargained in good faith. Federal Judge W. E. Miller set Jan. 21 for a hearing in Nashville. L&N was not caught completely by surprise by the second walkout, although meetings with union representatives had been going on until about 8 p.m. Monday evening before the trainmen struck. For its part, the railroad had offered—as a last resort, and without prejudice to its position—to accept the union demand for one-and-two consists with a certain few exceptions. L&N also wanted the right to operate for up to a year with small crews, because of the difficulty of hiring qualified personnel to bring crews up to one-and-two size.

Finally, the Louisville & Nashville proposed bringing local union chairmen in on consist negotiations, and it renewed its extra-pay plan for men working one-and-one crews.

Two boards hear three wage disputes

All three hangover rail-wage disputes from 1968 are going to emergency boards—with President Johnson creating one board to hear disputes involving the Brotherhood of Locomotive Engineers and the Order of Railway Conductors & Brakemen, and a second board to hear the dispute involving the Brotherhood of Railroad Signalmen. All three organizations had threatened strikes over a period of several days in mid-January. Chairman of the BLE-ORC&B board will be Leo C. Brown, S.J., of St. Louis; chairman of the BRS board will be Laurence E. Seidell, of Washington.

THE SOLID FOUNDATION



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The Ballad of JOHN HENRY

Of the many folk heroes associated with the railroads, perhaps the greatest of them all was John Henry. He matched his brawn against the newly invented steam drill, but he drove too hard, and the mountain won. Old John Henry died with his hammer by his side. Yet ever since that fateful day, the echo of his hammering can be heard in the stanzas of this great old railroad song.

When John Henry was a little baby
Sittin' on his mammy's knee
Well he picked up a hammer and
A little bitty steel
Said this hammer's gonna be the
Death of me
Lord, Lord
Hammer's gonna be the death of me

John Henry was a real steel drivin' man
Oh what a man was he
Now the Captain said to John Henry
I'm gonna bring that steam drill 'round
Gonna bring that steam drill

Out on the job
I'm gonna wop that steel on down
Lord, Lord
Wop that steel on down

Well John Henry said to his Captain
A man ain't nothin' but a man
And before I let your steam
To beat me down
I would die with this
Hammer in my hand
Lord, Lord
Die with this hammer in my hand

Now the sun was hot and it was wet
And there was no breeze at all
And the sweat ran down like
Water down a hill
The day John let his hammer fall
Lord, Lord
The day John let his hammer fall

John Henry was a real
Steel drivin' man
Oh what a man was he
John Henry said to his shaker
Hey shaker why don't you sing
I'm drivin' 30 pounds from
My hips right on down

Just listen to that cold steel ring
Lord, Lord
Listen to that cold steel ring

Well the shaker said to John Henry
I believe this mountain's cavin' in
John Henry said to his shaker, man
'Taint nothin' but
My hammer suckin' wind
Lord, Lord
Nothin' but my hammer suckin' wind

John Henry was hammerin'
On the mountain
And his hammer was strikin' fire
Well it drove so hard that
It broke his poor heart
He laid down his hammer and he died
Lord, Lord
He laid down his hammer and he died

John Henry was a real
Steel drivin' man
Oh what a man was he
When they took John Henry
To the graveyard
Buried him in the sand
Every locomotive come a roarin' by
Says there lies
A steel drivin' man
Lord, Lord
There lies
A steel drivin' man

John Henry was a real
Steel drivin' man
Oh what a man was he

Countless railroad men, like John Henry, gave their all to help span America with tracks of steel. Thanks to their courage and indomitable will, railroads grew and prospered and America grew and prospered.

We, at New Departure-Hyatt, love the colorful railroad past as much as John Henry did. Actually, that's why we're running these nostalgic ads. But, we love progress and the future of the railroads even more—which is why we constantly strive to build even better NDH Taper Freight Bearings.

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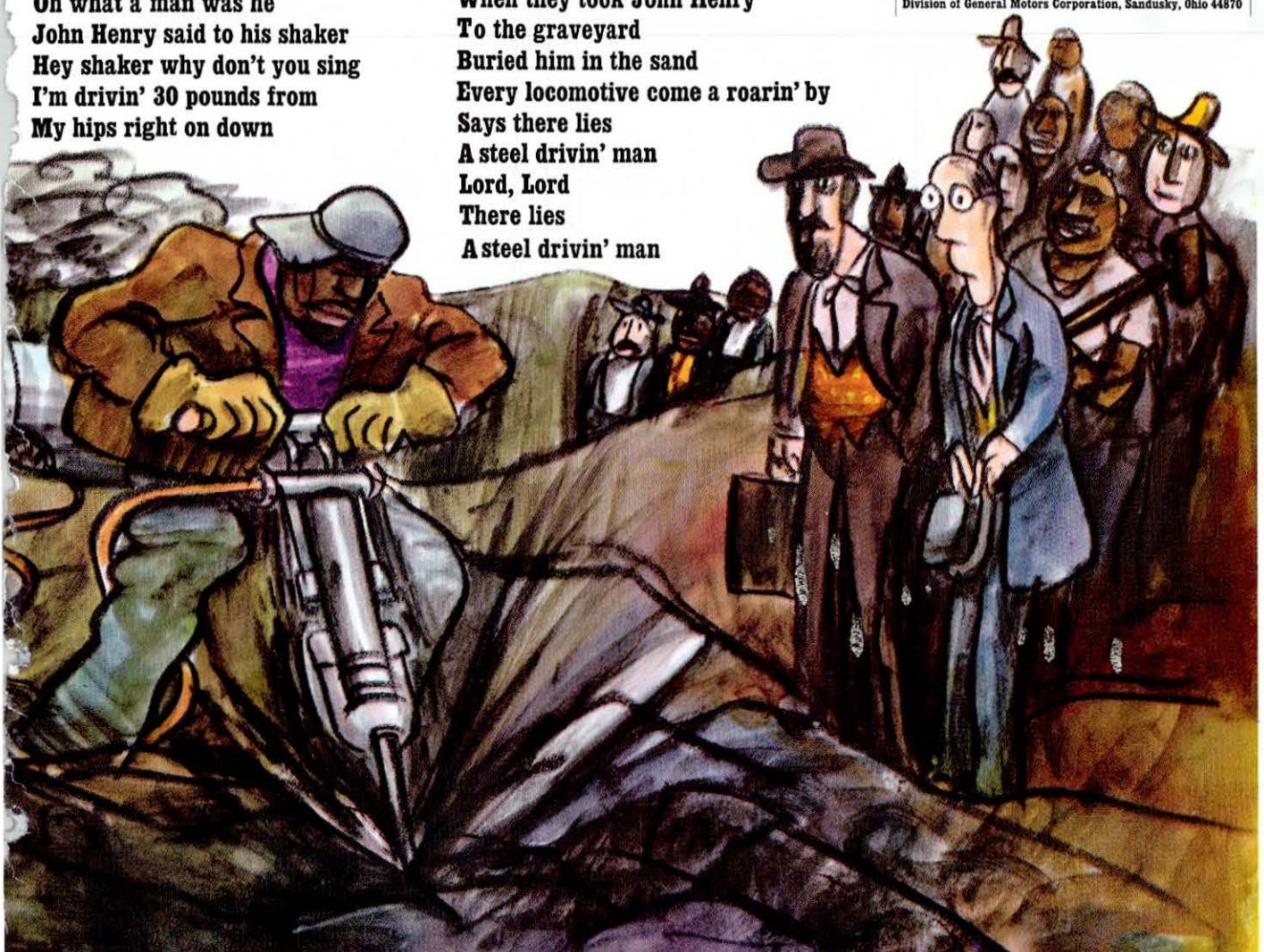
Division of General Motors Corporation, Sandusky, Ohio 44870



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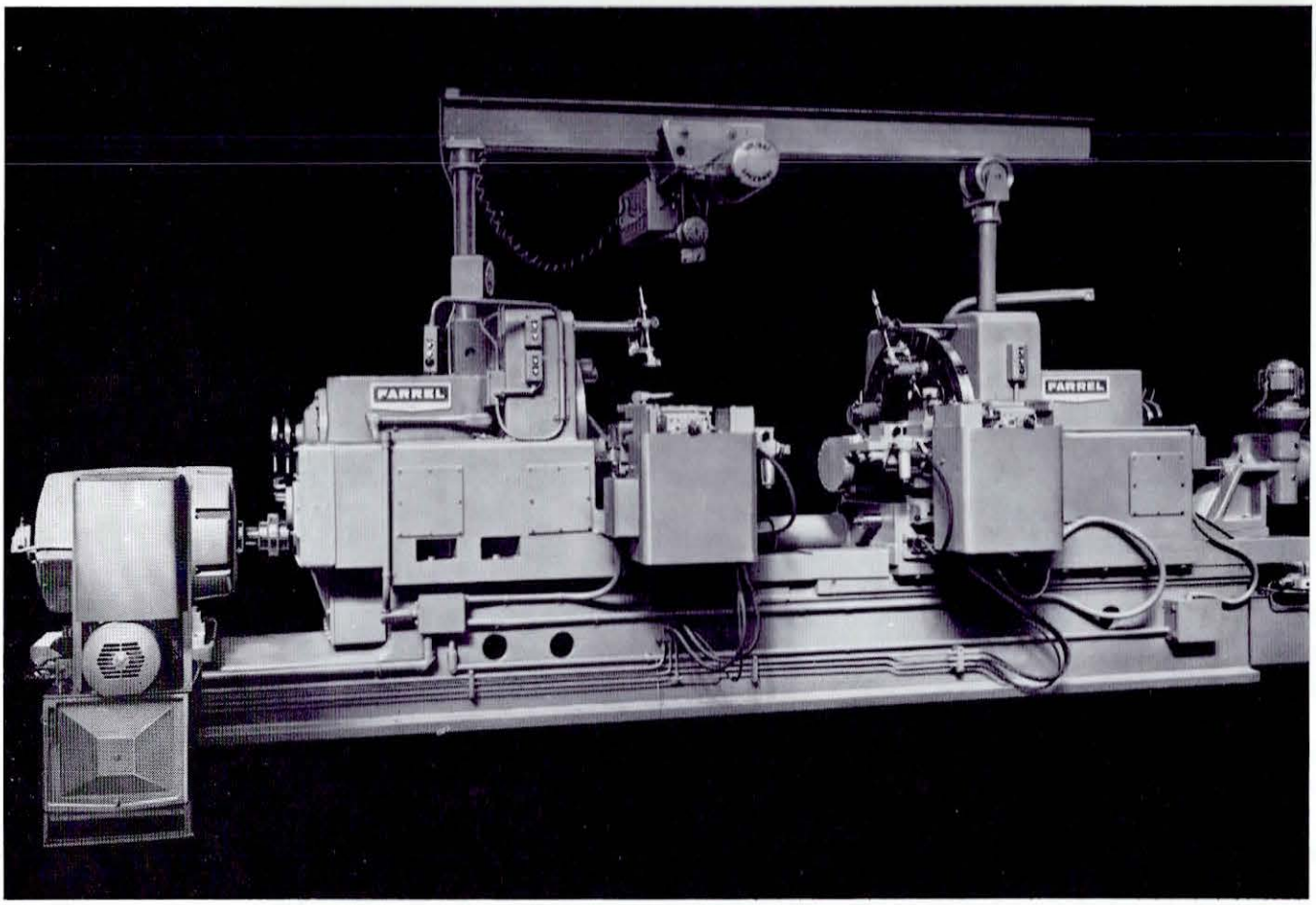

this new 50" tracer-controlled wheel lathe

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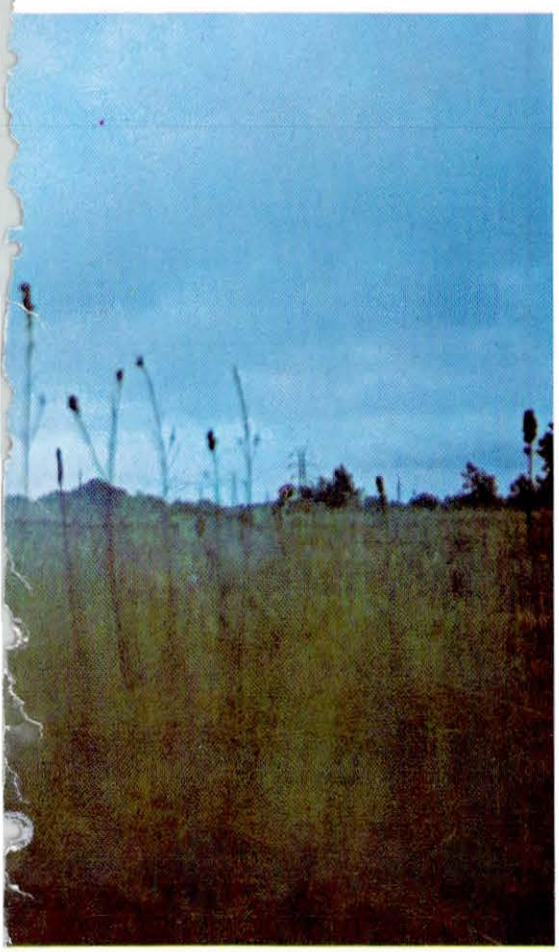

Sometimes, even something we make stops working.

Sometimes it's our fault. Sometimes it's your fault. And, sometimes it's nobody's fault. That's why every industry has warranties.

Ultimately, only one thing is important: being able to count on the good name of the manufacturer.

Pullman-Standard's good name has a hundred year history. But this assurance of quality is more than reputation. Nowhere is it more tangible than in our Sales and Service engineers, who often call on you before you have to call on them.

When it comes to quality follow-thru, we put our people where others put promises.

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Reliability for a new era of fast freight...

Brenco *crown-taper* roller bearings are the most modern of all.

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MODERN SIGNALING CONTROL?

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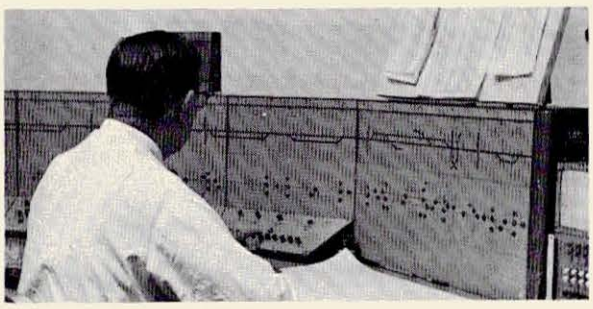

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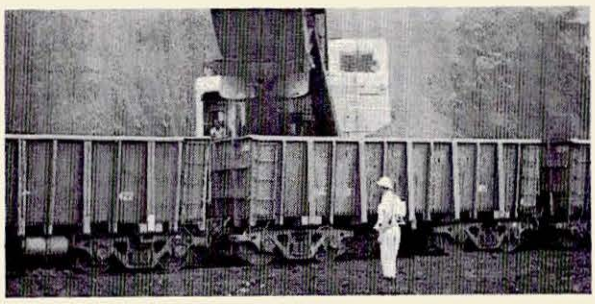

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Circle 16 on coupon page 103

1969 OUTLOOK

IT ALL ADDS UP TO...

	1967	1968	1969 (Est.)
Capital spending by Class I railroads	$1,520,000,000	$1,280,000,000	$1,600,000,000
Leased and private-line equipment	600,000,000	450,000,000	600,000,000
Fuel, materials and supplies	1,600,000,000	1,700,000,000	1,800,000,000
TOTALS	$3,720,000,000	$3,430,000,000	$4,000,000,000

. . . A $4-BILLION MARKET

A good year—possibly even a great year—is shaping up in the railway marketplace.

Railroads are dipping deep in the till to beef up capital spending budgets. A late Railway Age survey indicates that Class I carriers will invest more than $1.6 billion in capital improvements in 1969.

Another $600 million worth of rolling stock will be added through leasing arrangements and through purchases by private car lines, if past ratios are maintained.

To this must be added $1.8 billion that will be spent for fuel, materials and supplies—all charged to the operating rather than the capital account.

The total market for railway suppliers in 1969 thus amounts to $4 billion. And this does not include an estimated $150 million that will be spent on urban and suburban railway equipment this year.

• **An "iffy" situation.** It must be remembered that few industries are as mercurial as this one, and that any market projection at this point in time necessarily carries a strong element of iffiness. A sudden downturn in the national economy with a resulting decline in revenue

CAPITAL SPENDING: SIZING UP 1969

Railroad	1968 (actual)	1969 (estimated)
Burlington	$ 36,900,000	$ 45,800,000
C&NW	36,000,000	72,000,000
C&O/B&O	125,000,000	125,000,000
Erie-Lackawanna	19,000,000	19,000,000
Great Northern	32,330,000	26,300,000
Milwaukee	24,500,000	24,500,000
Northern Pacific	34,800,000	41,000,000
Reading	10,000,000	17,600,000
Rio Grande	14,000,000	11,500,000
Santa Fe	125,000,000	190,000,000
Union Pacific	57,000,000	115,000,000
	$514,530,000	$687,700,000

Note: Figures for Erie Lackawanna and Union Pacific are for equipment only.

ton-miles; prolonged strikes affecting either railroads or their important customers; an unexpected tightening of the wage-cost squeeze—any of these could darken the picture almost overnight.

But right now signals are green for a record or near-record year. The year is already off to a bullish start—on paper, at least—with the 13 Regional Shippers Advisory Boards predicting a 5% increase in 1969 first-quarter ton-miles as compared with the first three months of 1968. Still the pace-setter, piggyback will continue to grow at a rate of 10% to 12%.

All of this will mean that operating revenues in 1969 almost certainly will top the $11-billion mark for the first time in history. Of less than record proportions, however, will be net income. But at a projected $700 million, it will still be a healthy cut above 1968's $575 million.

● **Expanding horizons.** The industry's chief spokesman, AAR President Thomas M. Goodfellow, rang in the New Year with the observation that except for a financial squeeze that kept rate of return on investment down to 2.6%, "railroads had a good year [in 1968] and there's evidence that our business horizons are expanding."

Goodfellow takes a solidly optimistic long-range view: "Railroads are reshaping themselves to become the pacemakers of transportation service. And they'll get the job done, just as the railroad pioneers of a century ago pushed ahead to forge the transcontinental links that united our nation—a feat Americans will salute on the Golden Spike Centennial, May 10, 1969."

Also optimistic for Golden Spike Centennial Year—though cautiously so—is the supply industry's principal spokesman, Nils A. Lennartson, president of the Railway Progress Institute. Suppliers began to feel an uptrend in business in November "and the trend could continue through the major part of 1969, if increasing costs are kept within reasonable limits," says Lennartson. But he adds:

"We must recognize that the railroads' earnings margin is still vulnerable. The cooperation of labor and management is essential. The earnings margin could be quickly endangered if railroads are not allowed to achieve the cost savings which result from more efficient operations. It could also be endangered by the heavy deficits railroads incur by being forced to operate unpatronized, long-haul passenger trains."

● **As the carriers see it.** The New Year statements of the carriers themselves are almost uniformly optimistic. Penn-Central anticipates "a gain in income from rail operations in 1969. We are aiming for an increase in freight revenues reflecting such trends in the national economy as growing strength in the steel market, continued high levels of automobile sales and ever-increasing demands for coal-generated power."

Great Northern's President John M. Budd notes: "Assuming that [interim rate increases] remain in effect in 1969, we can expect some improvement in earnings, even with traffic improving only slightly."

Santa Fe is especially bullish on piggyback: "We are intensifying sales efforts for TOFC and COFC service, and expect continued growth of about 20% next year. We are continuing a long-term study to project future needs for piggyback and container handling facilities to equip ourselves to accommodate this growing area of business."

Frisco, after reaching an all-time high in freight revenue in 1968, is looking forward to "continued progress in 1969 with an expected increase of up to 6% in freight revenue and an increase of approximately 3.4% in revenue ton-miles. Frisco freight revenue for 1968 is up about 10% from 1967 and is expected to exceed $161 million."

Erie Lackawanna expects that "1969 will be a relatively good year. With a reasonable level of business and an adequate rate structure, it is expected that Erie Lackawanna will maintain its momentum."

Reading anticipates "a modest increase in merchandising freight volume in 1969, commensurate with the growth of industrial activity throughout the nation."

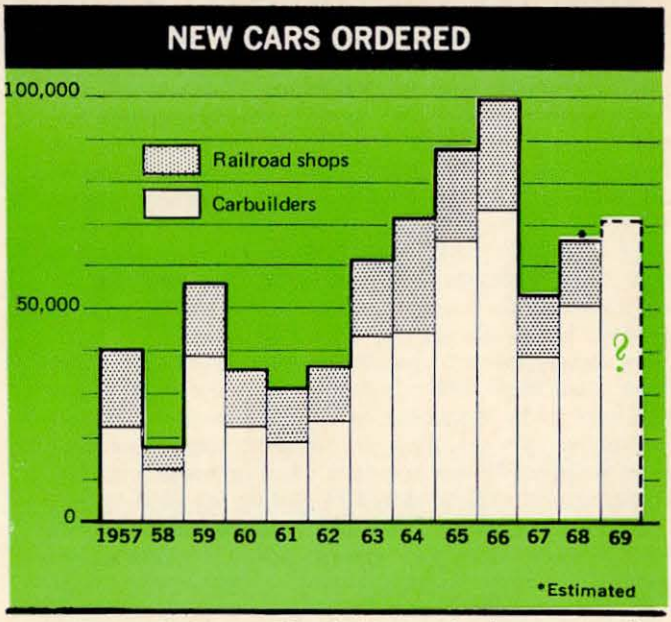
● **National indicators.** All national economic indicators, at this time, suggest that railroad optimism for the New Year has a solid foundation.

The American Statistical Association estimates that Gross National Product (GNP) will increase 6.6% in 1969. A slowdown in the rate of growth is expected in the first half of this year, but acceleration is anticipated in the second half. For industry as a whole, a continuing rise in plant and equipment expenditures—amounting to about 5%—is forecast.

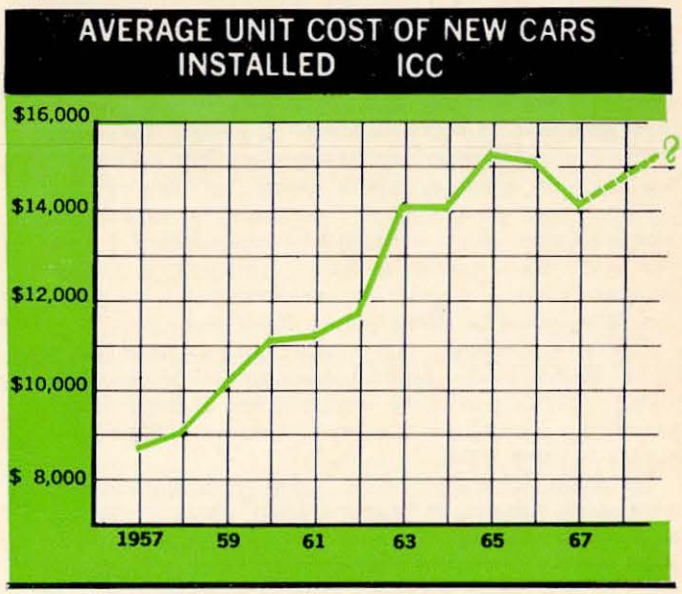
● **In Canada.** Canadian National sees better days immediately ahead: "For 1969 it is expected the decline in business capital investment of the past two years will be replaced by a more normal rate of growth and Canadian National forecasts a further financial improvement."

Canadian Pacific is also in the optimists' column: "With a moderate expansion forecast for the economy in the New Year, an increase in business and revenues is anticipated in most areas of corporate activities." ■

1969 OUTLOOK



ORDER DECLINE of 1967-1968 was far less severe than that of late '50s and early '60s but price cutting, evident from average prices paid for cars, depressed builders' profits.



Equipment spending to rise sharply

Over 70,000 freight cars, 1,000 locomotives should go on the builders' books this year.

By F. N. HOUSER, Mechanical Editor

Prospects are that equipment orders will be up 10% this year over 1968. This should mean something over 70,000 freight cars and almost 1,000 locomotive units, with capital spending of $1.375 billion for equipment.

When 1968 ended, close to 65,000 freight cars had been ordered with the commercial builders' total of 50,000 cars having been topped only five times in the previous 20 years. Locomotive builders did not fare as well, with about 850 new units going on their order books.

● **An old story.** Most of 1968's orders were concentrated in the final four months when car and motive power shortages were already well developed. The sudden upsurge in buying prompted one disgruntled shipper to observe that "the railroads will find out tomorrow what equipment they need today, and will then want delivery yesterday."

Delivery may not be as easy as it would have been during the buying surge of 1964-1966. When railroads started mailing out their flood of equipment inquiries about the middle of 1968, they found a different marketplace than that out of which they had walked some 245 months earlier.

Some of the old familiar names were not there. General American and Evans Products had abandoned those phases of their carbuilding which could have filled railroad requirements for general-service freight cars (RA, April 29, 1968, p. 40). Some of the newcomers in the field such as FMC-Charleston and Transco had also given up on new equipment. Only those builders with highly specialized designs which effectively dominated their fields had continued relatively unscathed.

● **Shakeout continues.** And the shakeout of equipment

CAPACITY HISTORICALLY MOVES OPPOSITE TO VOLUME

builders continues. Just two weeks ago Studebaker-Worthington announced that 140-year-old Alco Locomotive was up for sale, hopefully as a going-concern operation. But the depressed state of 1968's domestic locomotive market and cutbacks in foreign financing which adversely affected export locomotive sales had resulted in the decision which could very likely mark the end of locomotive construction at Alco's Schenectady, N.Y., plant. S-W's separate MLW-Worthington subsidiary expects to continue its locomotive activities in Canada and for the export market.

As uncomfortable as purchasing agents may tend to become when faced with a minimum of sources, they may well have to be reconciled to only two domestic sources for motive power. They are already confronted with fewer suppliers of cars at a time when railroads' own best interests could well be served by getting out of their own carbuilding completely. The historical precedent of railroads manufacturing their own equipment is a practice unmatched elsewhere in the transportation industry.

● **Price is high.** Today's high-cost economy makes it increasingly difficult for commercial builders to "stockpile" productive capacity so as to be ready when railroads scramble out of one of their periodic "valleys" of car acquisitions. George L. Green, president of Pullman-Standard, explains the problems of the nation's largest carbuilder: "Peak-and-valley buying works a hardship on Pullman's plant schedules and, of major importance, results in the loss of highly skilled craftsmen we have trained. In a high-level economy hundreds of welders, as an example, are lost to other nearby industries. For carbuilders this can only mean enormous expense in training new craftsmen and going through the familiar pattern of the 'learning curve.' Such costs must be recaptured if a business is to remain healthy. It would be infinitely more economical for shippers, railroads and carbuilders if the peaks and valley could be eliminated or, made less sharp."

"Delivery schedules," adds Green, "are of course bound to be affected after a protracted period of idle plant and departed personnel. Unlike some builders, Pullman-Standard did not shrink plant capacity or abandon facilities during the two-year slack."

He points out that railroads' "tonnage capacity historically moves opposite to freight volume, which is contrary to their best interests. As a result, in traffic upturns the railroads are caught short of needed capacity and in the downturns there is excess capacity." Green reasons that, regardless of the high level of over-all business in 1968, railroads forfeited the opportunity for gaining a growing share of the transport market because of their lack of modern, plentiful cars. Pullman-Standard has been working on traffic projections to enable its railroad customers to plan and order in advance of their needs "and not react to them," according to Green. The P-S marketing department determined early last summer that demand would center on box cars, flat cars and open-hoppers, in that order, accounting for more than half of all cars to be delivered in 1969.

Traditional peak-and-valley buying patterns can only have a detrimental effect on builders' operations, according to C. M. Wright, manager of Bethlehem Steel's railroad product sales. "The current upsurge in car purchasing reflects a continuation of this cyclical buying pattern," says Wright. "Idle plant conditions, furloughing and recalling of trained personnel, the necessary training of new personnel, and normal shutdown and start-up expenses result in increased production costs that must be evaluated when considering capital expenditures for new equipment, expansion plans, and long-range development plans, as well as research and development expenditures."

● **Problems everywhere.** "Peak-and-valley buying, with the order famine of 1967, caused some problems at Magor," reports R. Van Hassel, the firm's vice president and general manager. "Like most carbuilders, we had to curtail our operations and thereby release some of our employees. While the situation does not have too much of an impact on our customers, in the long run cyclical buying does cost the railroads money."

Canadian carbuilders also endured the famine portion of the "feast or famine" business cycle north of the border. And despite a recent pick-up, Canadian orders are still only at about 50% of the 1965-1966 level. "A decrease in business of this magnitude extended over a two-year period has resulted in some production capacity remaining idle," observes R. S. Wilson, general sales manager for Hawker Siddeley Canada's railway equipment products. He calls the peak-and-valley phenomenon "archaic, disruptive and costly" which, he says, does raise railroad prices ultimately. But, he adds, "the car-builder's profit is the thing squeezed most by this 'accordion'—during boom periods inefficiencies creep into our rushed production and during famine periods cut-throat competition affects our profits."

Wilson spells out in detail the effects of peak-and-valley buying on the established carbuilding industry:

—Railroad emphasis on delivery brings secondary, marginal builders into the market.

—Surges in orders cannot be handled in an orderly fashion as secondary, less efficient assembly tracks are brought into production and manned by less qualified personnel.

—Workmanship is sometimes below standard because of the stress on delivery, leading to need for repairs and increased car maintenance at a later date.

—Builders' purchasing departments have no opportunity to shop for the best deal on materials, having to settle on that which will meet production schedules.

—During lean periods profits usually disappear and meeting the overhead of idle facilities becomes a problem.

● **Nobody benefits.** Electro-Motive asserts that peak-and-valley buying contributes to inefficiencies in its operations. The short lead times which emphasis on locomotive delivery necessitates do produce problems "of quality and of higher manufacturing costs." Says an EMD spokesman: "In the long run, peak and valley buying is not in the best interest of the customer."

This builder stresses, however, that during the lean period of 1967-1968, there was no reduction in locomotive research and development budgets. Current EMD research and engineering budgets "are running at all-time highs and will continue to do so."

Having survived the slump of the past two years, what are equipment builders now expecting? "Our 1969 volume, on a locomotive unit basis, is forecast at 18% above calendar 1968," says EMD. "We will still be some 10%, or more, behind 1966, which was the best sales year in Electro-Motive history."

● **GE outlook.** Railroads ordered about 4 million horsepower in new road locomotives in 1968, adding more than 2 million to the installed horsepower in service. General Electric attributes 1968 locomotive activity "to continued high level of business and need for stepped-up train schedules." The year was also marked by more efficient utilization of the locomotive fleet, "through improvements in transportation management, computerization of operations, and greater interchange of motive power," according to O. F. Vea, general manager, GE Locomotive Department.

"As a result," Vea continues, "a number of major railroads were able to postpone locomotive procurement

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pending decision on freight-rate increases. With the approval of such increases, as well as prospects for favorable business conditions in 1969, there is every indication that the number of locomotives required this coming year will be somewhat higher than in 1968."

● **Carbuilder outlook.** Bethlehem estimates that carbuilding activity in 1969 will closely match the industry's performance in 1968. Berwick Forge & Fabricating estimates its 1969 dollar volume will be "a little greater" than 1968. Thrall, according to C. H. Wright, vice president—sales, sees railroads' increased buying continuing and is looking forward to a "satisfactory year."

H. A. Correa, president of ACF Industries, introduces a note of caution with his observation that it is "too soon to speculate as to whether the order revival is the start of a long-term trend or is merely a strong flurry," adding that "negative influences still remain."

"The record high ton-mile year of 1968, some recent improvement in railroad earnings, persistent freight-car shortages and economically promising technological developments" are listed by Correa as reasons for the increased volume of freight-car ordering. "Enough new business has been received to bolster order backlogs and provide carbuilders with increased production. ACF's carbuilding plants are busy with employment being increased as the result of new orders. Norfolk & Western, for instance, ordered 1,000 box cars late in November and acted the following week to double the order.

"However," cautions Correa, "our profit margins for sales are still below normal. We have continued to receive support from our leasing business [Shippers' Car Line] which has remained strong throughout the entire period."

Magor expects that 1969 will be "far better than 1968 but not as good as 1966." Canadian building activity, according to Hawker Siddeley Canada, will be better than 1968, but will not reach the level of 1965-1966.

Pullman-Standard summarizes its experiences as volume purchasing was resumed at the end of 1968. Initial heavy demand came from the South. The Southern broke the ice with an order for 1,000 box cars, followed by Seaboard Coast Line's contract for 1,200 box cars and Norfolk & Western's order for 1,000 covered hopper cars.

"Soon orders were pouring into Pullman-Standard from around the U.S. and Canada," says President Green. With the approval of the freight rate increase at the end of November, "the reawakened demand turned into a full-fledged boom." Chicago & North Western ordered a whopping 2,000 box cars at a cost of over $30 million—the largest single order for freight cars placed by any American railroad in 1968. Green terms it "the largest single order for box cars placed by a U.S. railroad in more than 10 years and the largest order for P-S for any type of freight car from a single railroad in more than three years."

In six weeks Pullman-Standard picked up about $90 million in orders for new cars during a period when the total for the entire industry topped $250 million. And carbuilders' backlogs soared as new-car orders reached the highest level in 30 months.

● **What types?** Builders are fairly consistent on just what types of cars they expect their customers to be ordering. Without exception, they report that they continued their R&D programs throughout the recent slump.

"As a result of our confidence in future potential," reports Bethlehem's Wright, "we did not curtail any of our engineering and development activities. Current inquiries cover a rather complete range of cars, indicating no significant change in the 'mix' of equipment needs for 1969."

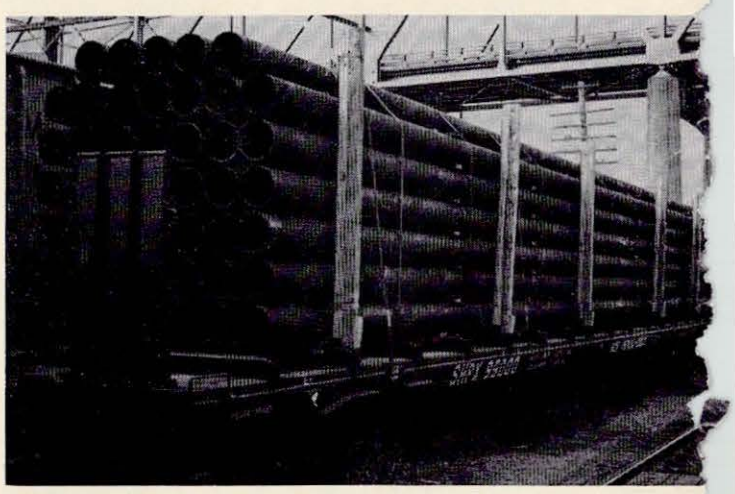
Magor's Van Hassel expects "a substantial number of box cars and covered hoppers to be purchased in 1969." Pullman's Green sees the year shaping up "as a bright one for box cars, followed by demand for flat cars and open-hoppers." This does represent a change in the P-S product mix since in recent depressed months the output was primarily flat cars. The builder's research and development activities are more intensive than ever before.

Carbuilders, according to Green, have the "technology and capacity to enable the railroad to hold on to, if not increase, their share of the nation's freight business." He anticipates this potential will be demonstrated before the end of 1969, "when we expect the industry to deliver 68,000 cars, a gain of almost 25% from 1968."

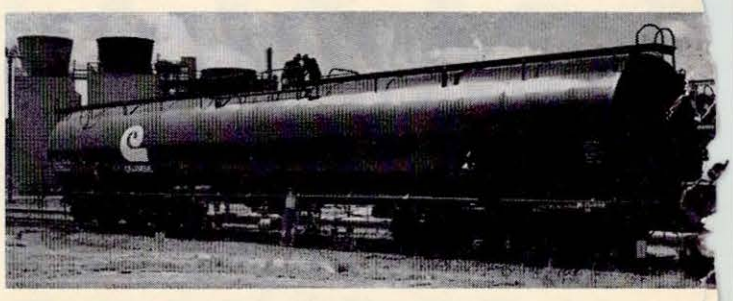
Railroad suppliers, says ACF's Correa, "have had to become innovators as a means of survival and did not relax their product development efforts during the recent order

BUILDERS GIVE ATTENTION

INSULATED BOXES, such as UP cars, are demanded for growing variety of ladings, some once moved in reefers.



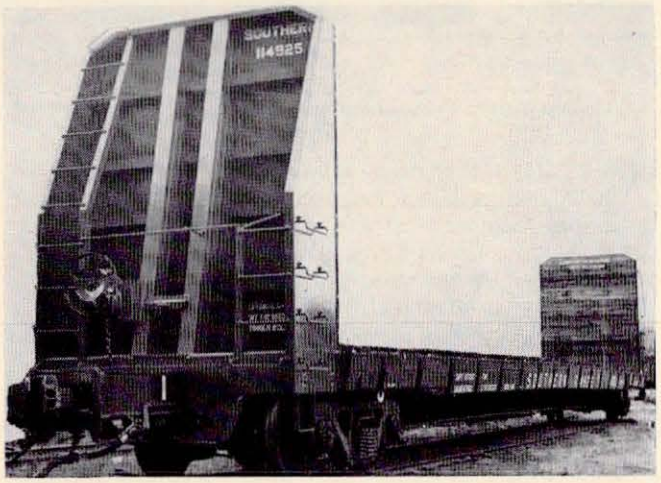
VERSA-DECK CAR which NP has just ordered can handle trailers or containers one way and pipe or poles the other.



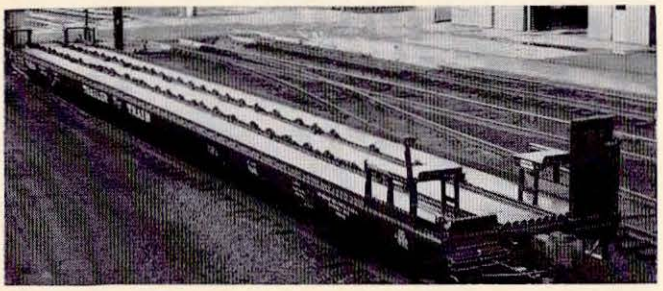
EIGHT-AXLE CAR with span-bolster running gear makes possible the 47,400-gallon capacity of the tank.

TO VERSATILITY, CAPACITY

COVERED HOPPERS, including 100-ton aluminum-steel units for Soo, are of increasing importance in grain moves.



BULKHEAD FLATS have simplified loading and handling of lumber; Southern is among roads with big fleets.



SADDLE-BACK fixtures on TTX car deck are typical of features enabling railroads to capture automotive traffic.

slump. We are even better able than before to produce rolling stock that can generate added earnings for the railroads by making possible improved transportation services to shippers. It is our conviction that the availability of such equipment makes economic sense and that a policy of better balanced buying patterns will become increasingly attractive to our railroad customers."

● **Coming locomotives.** Possibly most significant in the locomotive field in 1968 was the ordering of high-power locomotives by the Union Pacific—units whose 5,000- and 6,600- hp ratings will be achieved by using two diesel engines in a single carbody. In 1963 UP had ordered 98 units of 5,000- and 5,500-hp from all three domestic builders. The Southern Pacific followed with orders for six of the 5,000-hp units. Electro-Motive subsequently announced plans for a 6,000-hp dual-engine unit, but then dropped the model before any had been built. Then, in the closing weeks of 1968 UP announced a re-order for 20 of General Electric's 5,000-hp units and an order for a completely new EMD 6,600-hp type which is to be introduced in road freight service in conjunction with the Golden Spike centennial in May.

The prevailing industry attitude on installing two prime movers in a single carbody was expressed by the Locomotive Maintenance Officers Association Committee on New Developments at its 1968 meeting: "Over the years there was a considerable interest in dual-engine units in road-freight, passenger and even heavy switching service. These interests developed because single prime mover outputs were inadequate to meet the demands of what was desired in a locomotive unit . . . While single-prime mover capacities have not reached the 5,000- and 5,500-hp levels, as yet, the loss of flexibility inherent in such large units, plus the ability to produce single-engine units of approximately two-thirds this capacity has resulted in the discontinuance of dual-engine units as regular production models."

After commenting on this loss of flexibility with the "larger building blocks" of motive power, the Committee did observe that if five, or more, units are used consistently on trains, larger units should be investigated as a solution. With increasing demand for land-bridge service and similar high-speed trains, the only solution might well be adoption of the dual-engine locomotive.

The steady rise in average train speed has numerous implications. Hauling a 4,000-ton container train at 70 mph requires about 17,000 horsepower; to move this train at 90 mph requires 24,000 horsepower. Power output must always be quadrupled when train speed is doubled. It is here that higher freight train speed has its major impact on motive power.

It requires approximately 3 horsepower per ton for a train to attain a speed of 70 mph on level track. Railroads, which once powered only passenger trains on the basis of 3 hp/ton, are today operating freights with sufficient locomotive units assigned to achieve this same ratio.

Compared with the 3/hp/ton figure, the average heavy-duty truck must be powered at approximately 8 hp/ton to run at 70 mph—and most typical highway haulers are approaching this today. Here is, as an EMD spokesman noted recently, "important economic leverage favoring the railroad in power plant and fuel costs."

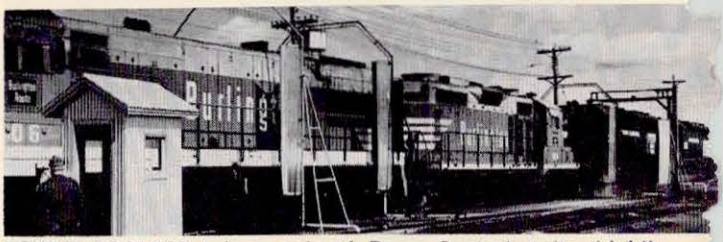
● **Another competitor.** Against another competitor, the jet plane, the railway fuel economy is even more dramatic. U.S. railways are annually spending nearly $400 million for 3.5 billion gallons of diesel fuel, aggregating 4% of their operating expenses. This compares with the American airline industry which spent over $500 million for 5.6 billion gallons of turbine fuel in 1966 (25% of expenses).

The voracious appetite of the jet engine has become a concern for the commercial air carriers and could ultimately have its effects on railway fuel costs. Because airlines are increasing jet fuel consumption by huge amounts each year (expected to be 9.1 billion gallons in 1970 and 13.5 billion gallons in 1975), the Air Transport Association asked the American Petroleum Institute if a shortage could develop.

API concluded that the domestic refining industry has, or will have, a physical capacity for producing fuels sufficient to meet aggregate airline and industry demands. The petroleum industry's estimated capabilities for producing future aviation fuel, noted API, did assume sufficient time and incentives to adjust from present use of kerosene-type products in other fuels, including those for diesel engines.

Improved refinery techniques and financial incentives

SLAVE OPERATION has spread across continent; pair of Canadian Pacific units trail "robot" car in Rockies.



POWER POOLING brings pair of Penn Central units (right) to Burlington washer at Lincoln, Neb.

open-cycle gas turbine as a means of attaining high horsepower in a minimum number of locomotive units. While UP once operated 55 of the 4,500-, 8,500- and 10,700-hp locomotives, the steady decline in the availability of low-cost heavy fuel oil has resulted in the retirement of more than half of this fleet. The low thermal efficiency of this turbine engine (less than half that of a diesel) could be justified only with fuels that cost appreciably less per heat unit than diesel fuel. With the rising demand for distillate type fuels, oil producers were able to alter refining processes so that there were no longer economies attendent with the ownership of gas-turbine electric locomotives.

● **Diesel improvements.** Over the past decade there has been a considerable improvement in diesel-engine and transmission efficiency, producing savings of up to 20% in fuel for the same amount of work. But such a saving can be of little effect in the face of higher train speeds. Raising a train's speed from 50 to 70 mph requires 39% more fuel on a ton-mile basis and 95% more horsepower.

There has also been improvement in wheel-slip control systems which are essential to utilization of high horsepower. Recent wheel-rail adhesion investigations by one of the locomotive builders did show that "adhesion is not affected by speed nearly as much as generally thought." This EMD study indicates that welded rail is appreciably better from an adhesion standpoint and that poorly maintained track with joints has a serious effect on development of tractive effort at any speed range.

The conclusion was that locomotives with higher horsepower-per-axle ratings should not suffer from unusual slipperiness at high speeds and a GE engineer has pointed out that a unit with a 1250-hp/axle rating needs no more adhesion at 24 mph than does a 1000-hp/axle unit at 19 mph. Having refined their wheel-slip control systems, it seems probable that builders will be introducing new trucks as the next phase of development which should make higher horsepower locomotive practicable.

Despite the recent emphasis on high power, GE's Vea notes that "there was a major trend towards unit replacement with the new 2300-hp units introduced in 1968. Such units were used in operations where a number of units are required, rather than a total block of horsepower or tractive effort." EMD expects its 1969 model "mix" to be about the same as 1968 with emphasis again on high-horsepower road locomotives.

GE reports that its computerized economic analysis, based on actual train dispatching practices, can indicate that there is an optimum horsepower per unit, depending on speeds, grades an dother factors, including projected changes in operating practices. Vea sees that the increased accent by railroads on reliability and simplicity of maintenance may slow, somewhat, the accelerating demand for higher per-unit power ratings. He adds that "advanced wheel-slip control and experience with high quality traction motors has shown that there is satisfactory adhesion performance with higher per-axle ratings, such as 3,300 horsepower on four axles."

GE has conducted a cost-effectiveness analysis of the railroad mode for movement of specific tonnages on short time schedules, versus higher powered trucks and planes of greater capacity. The appraisal indicates, according to Vea, that railroads with presently available equipment "are far more efficient movers of goods than the advanced equipment of competitive modes." Based on use of fuel, manpower and ownership costs associated with the equipment, the relative cost ratios were approximately one for rail, five for truck and 19 for air, in terms of cost per ton mile for high performance schedules.

● **Intermodal emphasis.** Actually no one in the industry, including GE planners, is any longer thinking in purely "modal" terms. Magor looks for containerization to make increasing penetration as a method for spurring railroad traffic growth. Trailer-Train, which qualifies as a growth company even by glamour-industry standards, has emphasized long-range planning. Right now, TTX is setting the pace in the intermodal age with all purpose cars that handle truck trailers and containers with equal facility.

Railroads are becoming an increasingly important factor in the trailer/container industry. Great Dane Trailers, for instance, expects its railway industry volume to be up 60% this year over 1968. Chris Hammond, president, says that railroad sales for Great Dane most frequently involve convention dry cargo units with smaller demands for refrigerated and high-cube trailers. While the 40-foot length has been maintained for a number of years, there is increased demand for units with over-all heights of 13 and 13½ feet to produce high cube. Hammond does not expect that there will be too much interest in containers for domestic service in lieu of trailers.

Pullman's Trailmobile Division had the most productive year in its history with maritime containers being a major factor. Realco, owned partially by REA Express, has been a major factor in supplying leased TOFC/COFC equipment for railroads. "Realco now owns 14,500 trailers and has almost 400 on order," says R. E. Budorick, president and chief executive officer.

"Last year would have to be classified as a very good one for Realco," he says. "Last fall was one of the most active periods we have ever had, and 1969 should be a pretty good year, too. We are planning to change our marketing concept to make our service more flexible. Integrated Container Service, which operates a worldwide container and trailer pooling service, has purchased a major share of Realco and we are planning to combine our domestic services with ICS's international service to provide a broader base for carriers.

"Working with ICS, Realco is planning to provide a much greater variety of container services for international trade, although the wheeled vehicle—the trailer—is considered more advantageous in domestic service." Budorick explains that ICS's major interest will make available more (higher per-gallon return for producers) have already virtually ended the Union Pacific's 20-year courtship with the

ARE DUE FOR EMPHASIS

ELECTRIFICATION, involving contemporary European technology, is getting U. S. test on Ohio line.

HIGH HORSEPOWER will be achieved in UP "Centennial" units with pair of 3300-hp diesel engines.

capital to Realco so that the recent increases in the prime interest rate should not curtail expansion and growth plans.

● **Financing equipment.** The problem of tight money with its accompanying high costs, plagues all capital goods industries. While no railroad can control interest rates, one builder observes that "when a railroad man figures out the comparative cost of paying slightly more to borrow and the rich rewards to be gained from making available to shippers modern, money-making equipment, he will opt for the new-look rolling stock." Another says that the "need for new equipment now appears sufficiently critical often overriding the interest rate deterrent."

R. P. Herman, vice president of North American Car, observes that "1969 will see more leasing by the railroads due to new tariff concepts and because railroad creation of holding companies means that they will expend capital in diversification, expanding their equipment fleets by other means."

North American found that as car shortages developed in 1968, some shippers increased their leased fleets to protect themselves in anticipation of increased shipments of their products. Some recent volume tariffs require equipment owned or leased by the shipper. By dealing with both railroads and shippers, NAC has been successful in maintaining "a slightly increasing freight car unit volume each year regardless of railroad's peak-and-valley buying." Adds Herman: "One effect of peak-and-valley buying most noticed is the extremely erratic delivery schedules of component suppliers—excellent when most people are out of the market and completely clogged when everyone comes zooming back in." He sees NAC acquiring up to 2500 cars in 1969.

● **Enlarged outlook.** Brighter prospects for American railroads are further enhanced by activities such as those of General American Transportation, according to C. E. Coyl, vice president of the GATX Transportation Division. "In several respects," he explains, "GATX enters 1969 with a new and enlarged outlook on augmenting efforts of the railroads in moving the nation's vast quantities of commodities.

"As in past years, the GATX fleet of leased cars continues to grow, both in sophistication for the growing array of new liquid products, and in total capacity. Although the number of units leased has remained fairly constant in the past decade, total capacity has grown dramatically." From 1961, when GATX began a substantial swing to higher capacity, until the beginning of 1968, the number of units increased 2.8% and fleet capacity went up 35.5%. GATX plans a $50 million investment in tank cars this year, all to be built at the Sharon, Pa., plant. A facility to manufacture Airslide bulk material cars is also being installed at Sharon. GATX has established a market research and development group to exploit its expertise and imagination in distribution, engineering and traffic. This organization will work with shippers and railroads to evolve greater distribution efficiency, including any new rolling stock required.

● **At arm's length.** Union Tank constantly emphasizes its insulation from the ups and downs of the railway industry. "While we do use railroad service," explains J. R. Kruizenga, UTL vice president-marketing, "we are not a supplier of equipment for the railroads. We lease our tank cars to shippers in the chemical, petroleum, food and fertilizer industries with our leasing activity being tied closely with the growth of these industries.

"We had an excellent year in 1968 and are very optimistic about 1969 prospects. Funds for production of tank cars in 1969 will be increased 10% over 1968. This increase is related to the expansion plans in the four industries which lease cars from Union Tank. While tight money markets make leasing much more attractive than owning, tight money does mean that UTL costs of doing business will be greater."

Part of the optimism of the tank car suppliers comes from the growth of the polymer industries. Railroads, long the major haulers of the raw materials and finished products of the metals industry, should appreciate that production of polymeric materials is soon expected to outstrip metals in volume.

● **Passenger prospects.** While last week's rail passenger news involved the Penn Central's intercity "Metro-liners," the passenger equipment prospects for 1969 are in the urban and suburban fields. Biggest railroad contract to be let this year will be the $37 million program for replacing all existing Illinois Central electric m-u equipment with 130 new bi-level cars (RA, Jan. 6/13, p. 13). New York City has budgeted $53.4 million for 400 more air conditioned subway cars. The Southeastern Pennsylvania Transportation Authority will be ordering 200 more electric m-u cars for Penn Central and Reading over the next few years. And California's Bay Area Rapid Transit, if its fiscal quandaries are resolved, may be odering 250 cars this year.

Budd is currently turning out 620 commuter cars which will enable the Metropolitan Transportation Authority to replace all pre-war m-u equipment on the Long Island. Shortly this builder will be burning out 150 cars for the Chicago Transit Authority. General Steel Industries is currently producing cars for the New York City Transit Authority and for the State of New Jersey which is leasing them to Penn Central for commuter service. Pullman-Standard is turning out 76 cars for the Massachusetts Bay Transportation Authority.

The builders' situation is well summarized by one spokesman: "Waiting for business to develop in transit cars is going to require even more patience than in freight cars. Here the problems are in the public sector, entailing tax money, government planning and obtaining rights-of-way. But, problems abound wherever there is growth, vitality and change—all characteristics of modern urban living. Problems also create opportunities—and no industry is confronted with greater opportunities today than transport." ■

1969 OUTLOOK

Trouble lurks on the labor front

Unsettled business held over from '68, plus new demands, cloud the New Year picture.

By GUS WELTY, Senior Editor

At this time last year, there was a kind of euphoria. The "peace on earth, good will toward men" theory seemed to be spilling over, even into railroad management-labor relations.

At this time this year, there is no euphoria. There is, instead, apprehension. There's not much peace. And the good will comes up slightly tarnished.

● **What's in the offing?** As 1969 gets off to a somewhat shaky start, there are these factors at work:

—The six shopcraft unions are in with new demands for wage-benefit improvements. If past experience is any guide, the shopcrafts will hang tough. Last time around, it took an act of Congress and compulsory arbitration to get a settlement.

—There's a sticky residue from 1968 wage movements. While most of the ops and non-ops agreed to pattern settlements stretching out to Jan. 1, 1970, there were holdouts. As 1968 passed from the calendar, three organizations remained on the outside. There was strike talk in the air.

—The report of Emergency Board 172 in the crew-consist case still leaves a bitter taste. No amount of rationalizing can change the fact that the board preached creativity and failed to practice it, although the opportunity was certainly there.

—Demands of the Brotherhood of Locomotive Firemen & Enginemen must still be dealt with, and BLF&E spirits may be rising. Their case to bring back the fireman is in no way related to the train-crew manning case considered by Board 172. But the board's refusal to come to grips with the facts of railroad operation in the train-crew case didn't hurt the Firemen a bit.

—Employment costs are inevitably going up in '69 because of the long-term settlements made in late 1967 and '68, with their built-up wage increases. Opportunities for offsetting savings become harder to find each year.

—The management-labor policies of the Nixon Administration remain unknown. The supposition is that organized labor will be able to exert less influence at the White House than in past years. But Mr. Nixon's labor secretary-designate is regarded as a man who prefers that management and labor settle their own problems, without intervention by government. Nobody argues with the theory, except for the fact that it hasn't worked particularly well in the railroad industry in the 1960s. Congressional attitudes in the general labor area aren't likely to be much changed. A number of labor's friends in Congress did survive the Nixon victory.

—In 1969, the industry will have its first contacts with the United Transportation Union, formed through unification of the Brotherhood of Railroad Trainmen, Brotherhood of Locomotive Firemen & Enginemen, Order of Railway Conductors & Brakemen and Switchmen's Union of North America. Under terms of the union merger agreement, disputes pending at the time of merger will apparently be carried through as-is. But new demands may be filed on a UTU basis, and that would include wage/benefit demands which will be coming up as the Jan. 1, 1970, moratorium expires.

● **Outlook: Not good, but . . .** All in all, '69 shapes up as another one of those years in which labor-relations people can qualify for combat pay. Even a dedicated optimist can find little to cheer about in the current outlook.

There is this to be said, however: Through 1968, the top-level committees from rail management and rail labor did continue to talk. And toward the end of '68, through other channels, there was a start—hopefully, there was a start—on what shaped up as the most creative negotiating to be seen in years.

This try for creativity came along in connection with the crew-consist case. A number of people, participants and observers, were impressed. But nobody, including Emergency Board 172, took immediate advantage of the chance to make a break with past patterns and practices.

● **New theory, new practice.** What's needed, if new ways are to replace old ways? In theory, a change in attitude would help. In practice, a test-tube is very much needed.

One continuing problem, of a theoretical sort, is that innovation in management-labor affairs is suspect. Innovators, on either side, are seldom popular. So, the first requirement is that somebody be willing to take a chance.

The practical problem lies in developing a kind of laboratory experiment in one of today's controversial areas. There are at least a few individual managements which are, right now, willing to go this route. But it's going to take cooperation from both sides to make even the most elementary experiment work. And thus far, rail labor's leaders have shown little enthusiasm for this sort of effort. This is understandable. But it's not good.

● **New thinking: It does exist.** Is there hope? Yes, some. During the messy business which wound up with an emergency board in the crew-consist case, union negotiators—and, eventually, the neutrals—were exposed to new thinking. There was interest expressed. And it's that initial interest that needs to be fanned, in whatever ways possible.

Opportunity for innovation does exist in a number of areas. There is promise in the apprentice-engineer programs entered into by the Brotherhood of Locomotive Engineers (although the BLE has called purchase of a locomotive simulator a "foolish extravagance"). The Brotherhood of Railway and Airline Clerks gets high marks from a number of labor-relations people for its attitudes toward modernization, and for its desire to do among the non-ops what UTU has done among the ops. But now, it would seem that the greatest opportunity of all exists in the UTU.

UTU is a massive organization. It will be a strong one, not just in sheer numbers but also in the talent it brings

together at the bargaining level. From all indications, UTU will in fact be a united organization. Its first president, former BRT chief Charles Luna, seems firmly in command, as might be expected. His three assistant presidents, the former chiefs of the BLF&E, ORC&B and SUNA, all worked hard for the merger. Their full support can be expected.

It should perhaps be remembered that there was a certain amount of opposition to this merger. Among SUNA members, one of every three voters said "no" to unification. Among ORC&B members, one of every four voters cast his ballot against. At the same time, there were long-time observers of rail labor affairs who, right up to the end, figured that either SUNA or ORC&B would blow the deal—that rank-and-file dislike for the BRT would defeat the proposal. In retrospect, the balloting represented a tremendous victory for unity, for the laying aside of vendettas.

● **What role for UTU?** What remains, in a major way, is the translation of that victory into better and more meaningful representation for operating employees. Inevitably, at some point, this has to involve the willingness to innovate. UTU President Luna has said that "we need a growing industry, and we intend to devote ourselves to that end." A sober look at the state of the industry indicates that help is needed. UTU could pitch in —to the benefit of its members, in a long-run sense. But only the passage of time will show what the union really has in mind, in thinking of a "growing industry."

Management, too, has a major responsibility for innovation. Labor, even UTU, does not now have what it takes to initiate creativity. First of all, it is not labor's job to propose new operating patterns or to determine the marketing considerations that underlie operations. That is management's job. Second, it is not a part of labor's capability to grasp the long-range potentials in marketing/operating innovations. It is management's job to educate, as well as propose. As one observer puts it, "it's our job to keep on coming up with the imaginative approach, and to back it up with the kind of evidence the unions can understand and believe, and finally just to keep banging away until somebody listens."

● **Meanwhile, dollar problems.** While all this creativity is being tried, however, there is also the workaday problem of handling union demands which could be summed up in a word: "More."

The current shopcraft demands are a case in point—perhaps indicating the shape of things to come later, when other organizations are also free to serve wage/benefit notices. The shop unions are asking for:

—Uniform minimum wage rates.

—An increase of 10%.

—Shift differentials, 10 cents an hour for second-shift work, 15 cents an hour for third-shift work.

—Additional skill adjustments.

—A cost-of-living adjustment, figured quarterly.

—Interest, at 6%, on all increases due, with interest computation to begin 30 days after the effective date of a wage increase.

This isn't all. Five of the six shopcraft unions are also demanding changes in training programs for regular and helper apprentices. They want apprenticeship periods of close to four years for regular apprentices and of almost three years for helper apprentices. They want company/union agreement on hiring standards. They want company/union interviews of prospective apprentices, as to their work attitude, responsibility, background—and this demand seems to carry with it an implied veto power by the union over applicant-selection. As one management spokesman sums it up, the shopcrafts "want to perpetuate the present antiquated aprentice rules—and they want additional restrictions on management rights."

UNITED THEY STAND

Key architects of largest merger of railroad unions in American history were these presidents of the four participating organizations: Left to right, Charles Luna, BRT; C. F. Lane, ORC&B; H. E. Gilbert, BLF&E; and N. P. Speirs, SUNA.

● **Bargaining: What is it?** Management's problem, or one of them, lies in the working definition of collective bargaining—which seems to be that a demand cannot be rejected; it can only be modified in final settlement. worked out fairly well for railroad employees, among In recent years—inflation years, to be sure—this has others: There isn't exactly a guaranteed annual wage—but there is virtually a guaranteed annual wage increase.

The theory, perhaps, isn't all bad—but it only works in (1) an industry-growth situation, or (2) a case where there is an offset available when cost increases come. Railroading, right now, is not a growth situation. And it has less and less potential for the expense-offset, in part because union bargainers have already blocked this route.

In this context, the trend in union demands is disturbing —both in those demands on the table now and in those expected later on. Even more ominous, however, may be the failure of anybody on the outside to call attention to the basic problem, which is the enforced inability of the industry to make, for itself and for its employees, the best possible use of manpower.

On balance, the industry has lost considerable ground in the past several years. It lost more ground, in the crew-consist case.

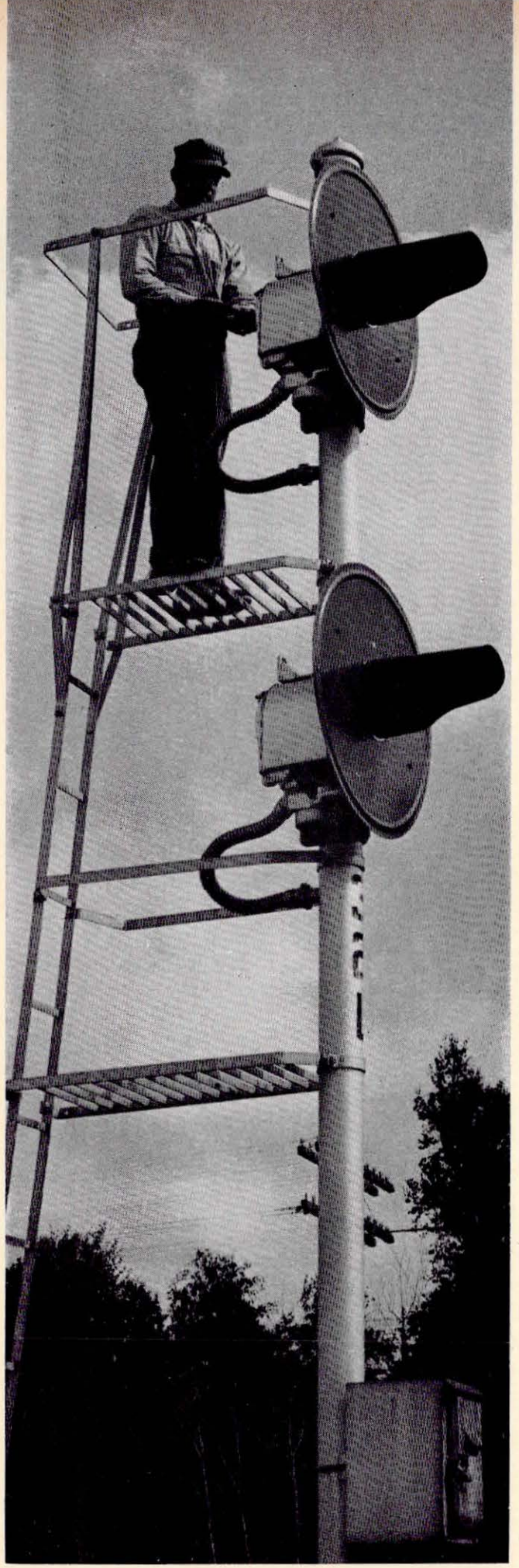
● **A job to be done.** As one railroad spokesman summed up the emergency board's report on the manning dispute, "over the past 10 years, many public agencies have weighed the crew-size dispute in an effort to determine if trains were overmanned. They examined evidence and, in each case, their findings were basically in favor of railroad requests. This board alone, of all the bodies that have been involved in the dispute, has declined to evaluate either the evidence or the experience that railroads have generated since they were allowed to operate with modern crew sizes."

So, here comes 1969—a year not without hope, but certainly not without serious problems, either.

There is hope, in the continuing dialog between top people in management and in labor. There is hope, in the guarded interest union leaders have expressed in exploring breaks with the past in train operation. There is hope, in the ops' merger. There is hope, in the dedication labor-relations people continue to show—even in the face of bitter disappointment.

But hope won't do it. Maybe, finally, some form of permanent outside-intervention machinery will have to be set up, as some in the industry continue to insist. Maybe, and it would be all for the better, some form of understanding can be created in which that long-awaited new-look in management-labor affairs will come into being.

It should come, and soon. Eventually, time runs out on everything, and everybody. ■



1969 OUTLOOK

All signals are "go" for a busy '69

Of S&C outlays totaling $120 million this year, signaling will get a bigger-than-usual share; microwave growth will continue.

By ROBERT W. McKNIGHT, S & C Editor

Railroad budgeting in 1969 for signal and communications improvements shows expenditures little changed—in total figures—from those of the past few years.

There is, however, a likelihood that more dollars than before will be going for signal-system improvements, with perhaps fewer dollars going for communications.

In recent years, S&C spending has run well over $100 million per year. Equipment cost has accounted for about half of the total, and this ratio probably won't change much in '69.

● **Total budget: $120 million.** Preliminary estimates point to railroad and rail-transit budgeting totaling about $120 million, with about $65 million of that going for hardware. Spending for communications equipment will likely account for slightly more than half of the $65-million total.

S&C people will be having an active year. There's the ACI deadline of Jan. 1, 1970, to be met. There's the activation of the AAR's TRAIN system coming up. And there is an exceptional amount of terminal-improvement work going on, both in new-yard construction and in control improvements applied to existing yards.

ACI's implementation will be the universal problem. And, while most of the attention thus far has gone to the matter of freight-car labeling, there are serious questions yet to be answered regarding location and installation of scanning units and development of communications links leading from the scanners.

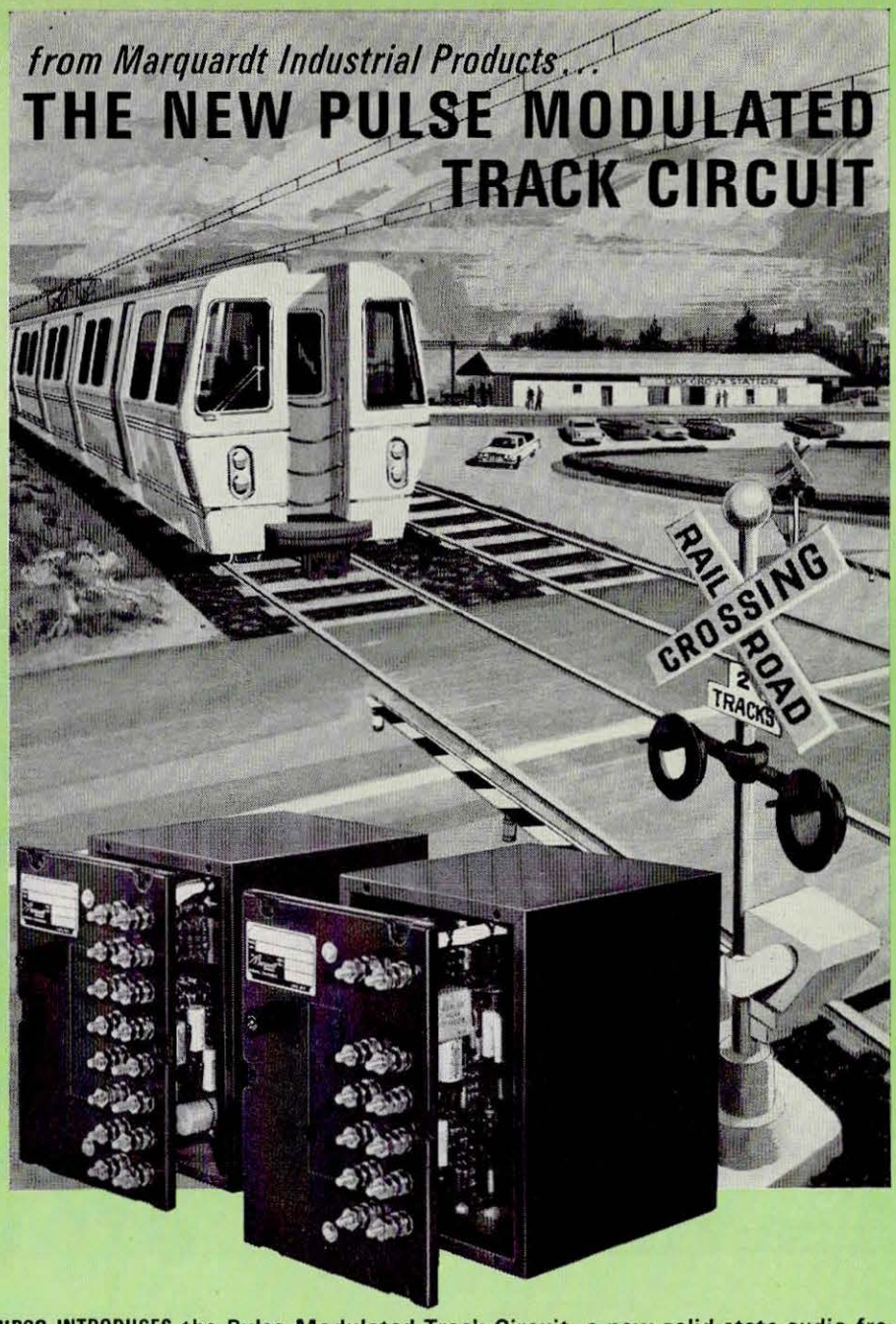
For some roads, many of the answers are available. Southern, for example, has well-laid plans for installation of scanners at 38 locations this year. Canadian National planning is in good shape.

In a number of other areas, however much work re-

(Continued on page 43)

from Marquardt Industrial Products...

THE NEW PULSE MODULATED TRACK CIRCUIT



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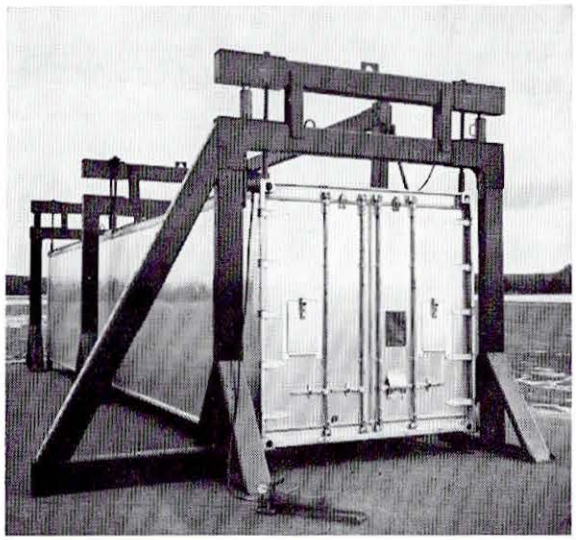
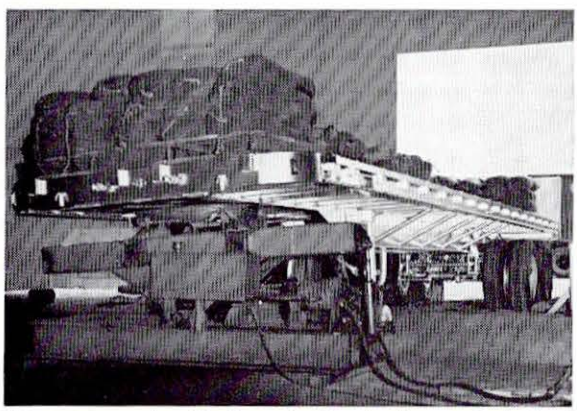
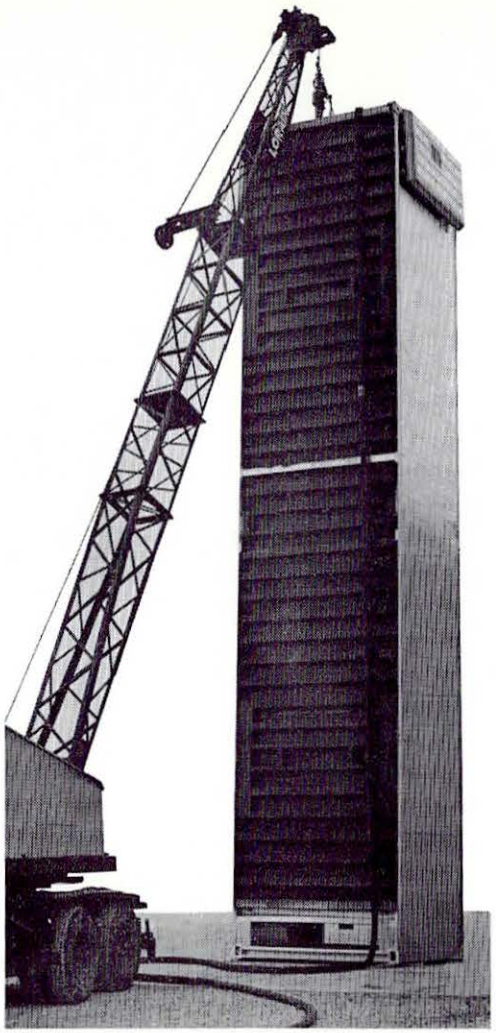
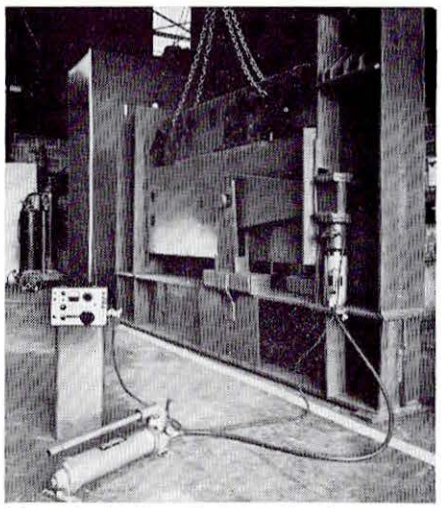


This multi-purpose test fixture allows engineers to take accurate readings on stresses applied vertically, horizontally and diagonally

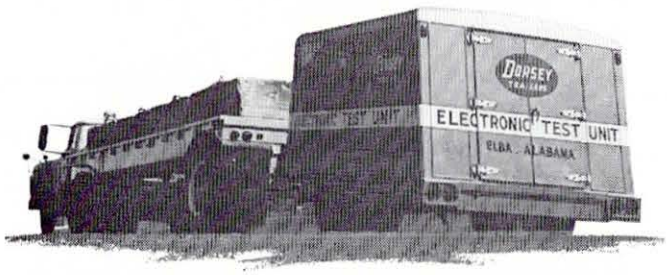


This equipment subjects a trailer to the equivalent of 200,000 road miles in less than 60 days. Rollers rotate the wheels while the oscillating fifth wheel subjects the unit to a severe wracking motion at pre-set intervals





A large hydraulic cylinder applies forces simulating the strains imposed at the point where tractor fifth wheel supports a loaded trailer



Dorsey's "rolling laboratory" is pulled behind trailers while the effects of shock, stress and strain upon various points are recorded on electronic equipment. A technician in the test unit operates recording equipment

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DISPATCHER-CONSOLIDATION TREND WILL CONTINUE

(Continued from page 36)

mains to be done before any kind of network of ACI reporting devices can go into operation. And the deadline is now little more than 11 months away.

● **Save with computer.** A major consideration when installing ACI scanners in a terminal area is the possibility of tying several scanners into a computer with the attendant savings in hardware at the scanner sites. Each scanner feeds data in digital form via a high-speed communications link to the computer. This is direct reading from the labels. The computer supplies the proper format of printouts for human usage which includes alpha-numeric characters. Estimates have been made that, for eight to 10 or more ACI scanners, it is more economical to use the computer-concentrator system than to have individual scanner systems each with its hardware to produce final formatted messages.

(In this critical year of 1969 when railroads will be making plans for and installing ACI scanners, there are some indications of jurisdictional disputes about who installs and maintains the scanners—signal or communications employees. Unions in both departments—the Brotherhood of Railroad Signalmen and the International Brotherhood of Electrical Workers—have filed notices that each will be responsible for installing and maintaining ACI scanners.)

Communications facilities offer yet another aspect of the over-all ACI problem, and of the companion problem associated with the startup of TRAIN.

To meet these and other increasing data-transmission requirements, several roads are planning heavy additions to wire-line carrier facilities, expanding existing microwave systems or installing new ones. A Railway Age survey shows, for instance, that at least 1,000 route miles of microwave are scheduled for development during 1969.

When considering these communications links, rail managers will do well to consider the lease-vs.-buy situation, particularly as regards hearings now conducted by the Federal Communications Commission on telephone company rates. Telpak tariff (AT&T's bulk communications package) has been increased. The jump in rates for Telpak has caused some roads, like Penn Central, to seriously consider constructing microwave systems. The airlines communications company, known as Arinc (Aeronautical Radio Inc.) is asking for bids on a nationwide microwave system. Also, some railroads are considering asking Arinc if they might lease communications channels if it constructs its own microwave system.

● **Cable vs. microwave.** Recent improvements in electronic devices known as cable repeaters, to strengthen the electrical signals, have made multi-channel cable communications a distinct possibility for the private user, including railroads. Using coaxial or a special design of composite cable these cable systems have the advantage of not requiring FCC licenses, can be buried underground away from weather and possible damage by vandals, and can be buried on a railroad right-of-way.

While virtually every road will be turning plans into action for ACI and TRAIN, more than a few will also be turning engineering and S&C people loose on major terminal-improvement projects. Three major electronic class yards are under construction—by Santa Fe at Argentine, Kans.; by Burlington at Kansas City; by Texas & Pacific at Fort Worth. Automatic-controls contracts have been awarded for two other yards—for Penn Central at Columbus, Ohio, and for CP Rail at Calgary, Alta. Another pair of new yards will be in the planning stages in '69, including Northtown Yard on Northern Pacific, which presumably would be the principal Twin Cities class yard when Burlington Northern comes into being.

All of these new yards, it is reported, will make use of digital process-control computers. In addition, digital computer installations will be made at several existing yards to provide car-inventory data.

The use of digital process-control computers for classification yards is an innovation which has come within the past three years. The one big advantage is that these computers can receive analog signals, such as from the movement of freight cars, and convert them to digital form for processing. Thus, these computers can control rolling freight cars moving down retarder humps and also provide a car-location inventory. Former yard computers were of the analog type which could not provide car inventory data.

● **Dispatcher consolidations.** Many roads are finding that with improved communications facilities and push-button CTC machines enabling control of larger territories, dispatching can be centralized at headquarters. The trend toward dispatcher consolidation will continue in 1969, with purchase of more communications gear to extend the dispatcher's voice from his new office to his old location. Also, channelizing equipment will be purchased to handle CTC controls and indications between the old and new headquarters. Some roads are planning to purchase new, larger-capacity pushbutton CTC machines to handle territories formerly controlled by several machines.

As for centralized traffic control, several roads are making re-evaluation studies of their existing CTC territories to ascertain if present siding lengths and spacings should be modified to meet present and future traffic requirements. For example, some roads are operating with 100, 125 or more cars in freight trains at speeds up to 60 mph or above. Other railroads are running short, fast trains—may limit tonnages to 2,500—and maintain passenger-train schedules with speeds up to 70 mph.

Many roads have gone to computer simulation for determining siding lengths and spacings for CTC territories. This simulation of train operation over the line under study makes possible a determination of the most efficient and economical length and arrangement of sidings before actual work is begun in the field.

● **Automatic inspections, too.** To accomplish automatic inspections of moving trains away from terminals, many roads are installing hotbox, dragging equipment, loose wheel and sometimes clearance detectors at the same location. Consideration is being given to the addition of an ACI scanner which could supply an exact identification of any cars having abnormalities. Readouts from detectors may be provided on-line by illuminated signs, or sent to dispatching headquarters.

Highway grade crossing safety will receive increased attention by railroads in 1969, particularly in provision of selective speed controls for the protection devices. These controls differentiate between high and low-speed trains, so that the protection equipment operates only as long as necessary to protect the motorist. Estimates are that at least 40% of the crossings protected with flashing-light signals and automatic half-gates are equipped with selective speed controls.

Interest in crossing protection has always been high among local and state governments. In a departure from conventional practice, the state of California is also paying for maintenance of protection equipment at railroad-highway grade crossings. California, as well as other states, pays up to 90% of installation costs for protection equipment. ■

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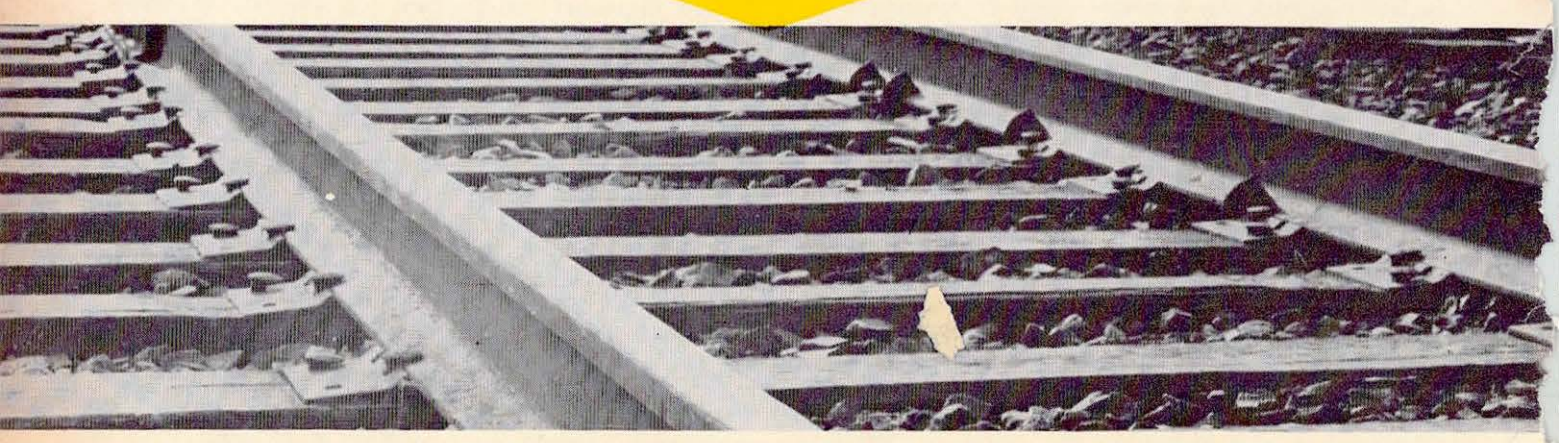

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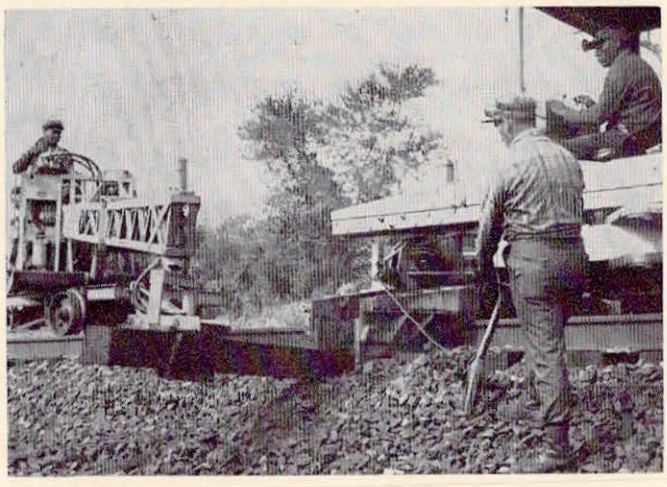
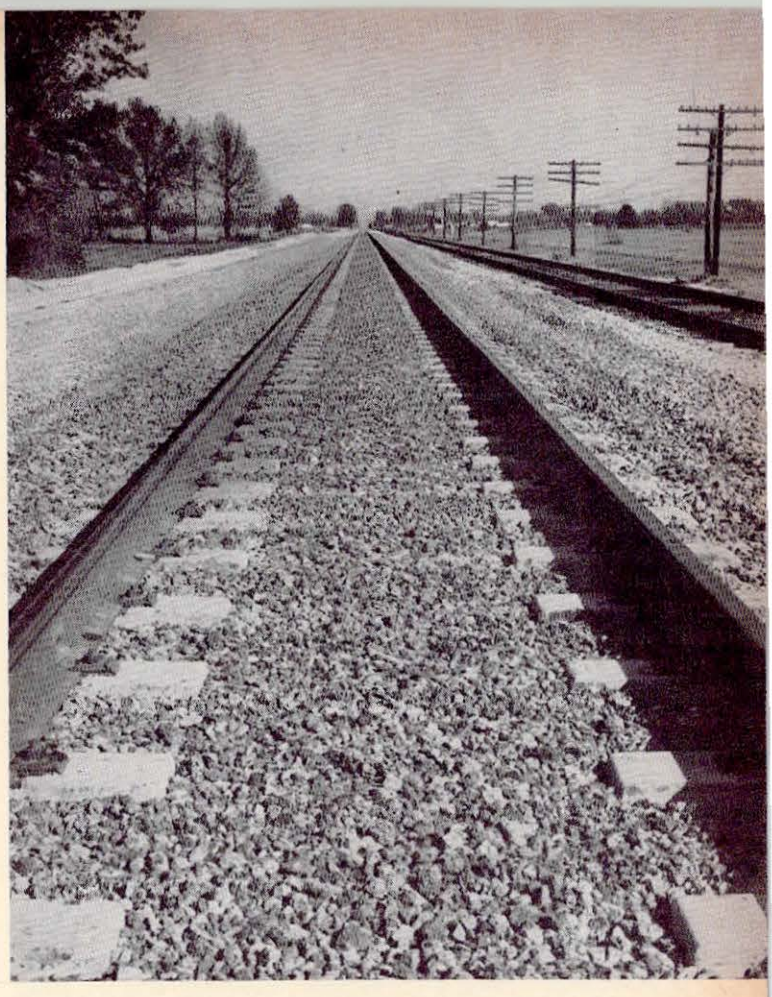
1969 OUTLOOK





Stepped-up activity seen in M/W field

Rail, tie renewals rose in '68 and will rise again in '69—but may still be too low.

By M. H. Dick, Engineering Editor

Track-maintenance activity, with minor setbacks or hesitations here and there, seems to be working determinedly toward higher and more adequate levels. Following substantial gains in most categories of work in 1968, programs for 1969 are expected to continue the uptrend, perhaps on a somewhat more modest scale.

Forecasts are based on estimates made by Railway Age from figures submitted by most Class I roads, showing the approximate amounts of new rail and new second-hand crossties inserted during 1968, and the mileages of track surfaced out of face last year. Responding railroads also submitted estimates of the various amounts of such work they plan to carry out in 1969, and these figures are used as the basis for calculations of the total amounts of work in the several categories performed by Class 1 roads as a whole.

● **Rail and tie renewals.** According to these calculations, Class I railroads will lay about 545,000 net tons of new rail for renewal purposes in 1969, providing that nothing happens to interfere seriously with programs for the year as they were forecast by individual roads near the end of last year. The figure for 1969 represents an increase of 30,000 tons, or 5.8%, compared with the estimated new rail renewals for 1968.

Renewals of new ties in 1969 will continue the upward trend that has been in evidence since 1961, with the exception of a minor setback in 1967. Estimates are that Class I railroads will install about 18 million new ties in existing tracks in 1969. This will represent an increase of 600,000 ties, or 3.5%, compared with the estimated new tie renewals made by these roads in 1968. This gain, coming on the heels of an even more substantial increase last year, will bring tie renewals to the highest level for any year since 1957.

● **Are they high enough?** Even though rail and tie renewals have scored impressive increases in recent years, it is still pertinent to raise the question whether they

TRACK SURFACING WILL INCREASE SHARPLY THIS YEAR

are high enough. The 18 million ties slated for installation this year, as high as this figure may be in relation to tie renewals of recent years, still presumes an average tie life of about 50 years. Track men generally have serious doubts that railroads are realizing anywhere near this much life from their crossties.

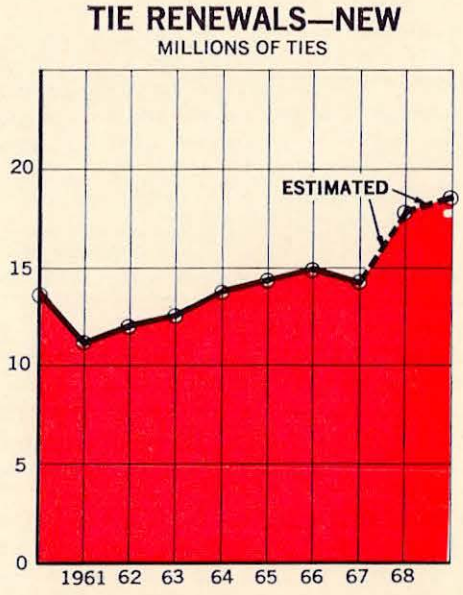
A similar situation applies with respect to rail renewals. The 545,000 tons of new rail slated for installation in existing tracks in 1969, when considered in relation to the total mileage of track maintained by Class I roads, presumes an average service life for rail of well over 100 years. Track men generally will agree that the actual service life of rail falls far short of this figure.

Judging by projections on the amount of out-of-face track surfacing planned in 1969 by reporting railroads, the carriers generally will be surfacing a great deal more track this year than in 1968. A total of 26 railroads reported their plans for this type of work. These roads plan to surface a total of 33,655 miles of track this year, an increase of 5,000 miles, or 17.5%, compared with 1968.

● **Big gains for 1968.** The estimated figures for tie and rail renewals in 1968 represent substantial increases compared with 1967. For example, the 515,000 net tons of new rail that was estimated to be laid for renewal purposes last year represented an increase of 109,000 tons, or 27%, compared with the 406,060 tons inserted in 1967, as reported by the Association of American Railroads. Thus, rail renewals recovered sharply from the sharp drop that took place in 1967 from the relatively high level reached in 1966 (see chart).

What these over-all figures on new rail renewals don't show are the large—even phenomenal—increases in such renewals chalked up on some individual roads. For example, two of the largest roads in the country reported rail renewals in 1968 that were more than twice the figures for 1967. Other roads registered less spectacular, but still substantial, increases in new rail renewals.

Another feature about rail renewals in 1968 is that the year appears to have been one of those in which a fair number of roads obtained supplemental allotments of new rail during the year. There is also evidence to indicate that new-rail programs in 1968 were fattened by carryover rail, i.e., rail that was delivered but not laid in 1967.



The 17,400,000 new ties estimated to have been installed by Class I roads in 1968 represented an increase of 3,000,000 ties, or 21%, compared with the 14,423,459 ties inserted in 1967, as reported by the Association of American Railroads. (An interesting sidelight on the crosstie picture is that the Committee on Ties and Wood Preservation of the American Railway Enginering Association, in its annual analysis of crosstie statistics, is now including concrete ties in the figure for total tie renewals. For 1967 the figure includes 16,073 concrete ties, according to the committee.)

● **Downtrend for secondhand ties.** Continuing a trend that has been in evidence for some time, insertions of secondhand ties apparently went down in 1968. Fifteen roads gave figures on such insertions. In 1968 these roads installed 313,712 secondhand ties, compared with 406,384 in 1967. The fact that railroads are no longer obtaining large quantities of usable ties by taking up abandoned tracks is undoubtedly an important consideration in bringing about a decrease in the number of secondhand ties used.

The amount of track surfaced out of face last year was apparently at a standoff compared with 1967. A total of 26 roads submitted figures on this type of work. These roads reported that they surfaced 28,656 miles of track last year compared with 28,839 miles the previous year. Judging by the experience of recent years, this was a distinctly unusual situation: In every previous year since Railway Age began obtaining and reporting figures on track surfacing in 1960, the figure has shown an increase over the years before.

● **Dollar outlays up 7.6%** Considering the overall picture, however, it is apparent that railroads as a whole performed substantially more work on tracks in 1968 than during the previous year. As might be expected, the result was an increase in dollar expenditures for maintenance of way and structures. For the first nine months of the year, Class I railroads spent $1,044 million for this type of work, according to the AAR. This represented an increase of slightly more than $74 million, or 7.6%, compared with the same period in 1967. Percentagewise, the increase in total operating revenues was somewhat less, being 4.8%, compared with the same period in 1967. The result was that the M/W ratio for the first nine months of 1968 went up slightly—from 12.6% in 1967 to 13.0% in 1968.

As usual, M/W departments in 1968 had to contend with wage increases for their employees. An agreement with the Brotherhood of Maintenance of Way Employes resulted in a general wage increase of 3.5% on July 1, 1968, with further increases of 2% scheduled for Jan. 1, 1969, and 3% for July 1, 1969, these being in addition to liberalized rules for vacations and holidays.

Wage increases always result in problems for M/W departments but they work a particular hardship in situations where management has a policy of not increasing allotments to compensate for the higher wage rates. The fact that substantially larger maintenance programs carried out in 1968 did not result in a greater increase in dollar outlays indicates that M/W officers are continuing to make headway in their efforts to put their forces on a more efficient basis through mechanization and other measures.

● **Spotlight on tracks.** One of the more encouraging aspects of the current picture from the viewpoint of M/W officers is the increased attention being paid to the condition of the tracks. On several occasions during the past year, top railway officers have gone on record as favoring a higher standard of maintenance, at least for mainline

tracks. In doing to, these officers have set forth a line of reasoning which holds that the end result of such a policy can be reduced costs and more business for the railroads. What this means is that increased expenditures for track maintenance are being justified on a coldblooded, dollars-and-cents basis, as against the equally coldblooded, but perhaps uneconomical, policy of cutting M/W expenditures simply to attain some temporary financial goal.

For their part, M/W officers are proceeding with efforts to reduce maintenance costs by whatever means can be developed to impart durability to the track structure and increased efficiency to the operation of the maintenance forces. The use of continuous welded rail, both new and secondhand, already well established, continues to gain, and now an increasing number of roads are adopting the practice of joining the long strings in the field by the thermit process. Meanwhile, the search goes on for an effective and economical method of making joint welds in track on an out-of-face basis. Reports are that equipment for accomplishing this end may soon be introduced in the United States from abroad.

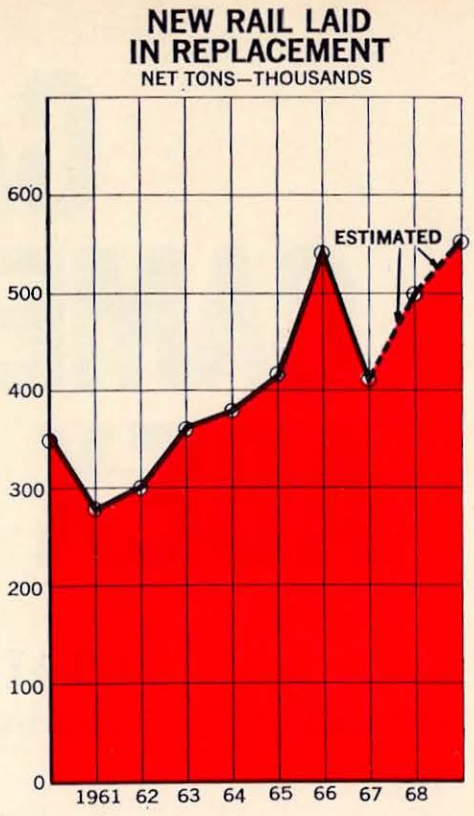
● **Researching the crosstie.** Efforts to reduce maintenance costs through increased durability are not confined to the rail. Crossties continue to be an object of attention in various quarters. Producers of wood crossties, perhaps influenced by the activities of the concrete-tie people, are in the midst of a research program involving the wood tie, which is aimed at improving the "economics of the track structure." The program, being conducted jointly with the AAR Research Center, involves analytical studies and laboratory and field testing. Different spacings and sizes of ties, including some of the laminated or built-up type, are being investigated.

With the demand for crossties tending to increase as a result of the uptrend in tie renewals, track men are alert to the possibility of a tie shortage developing in the near or distant future. It is this possibility that is the primary reason for the continuing interest in the concrete tie. In recent years numerous installations of concrete ties have been made, mostly for test purposes. One of the more recent of such installations (placed in service in September 1968) is in mainline track on the Baltimore & Ohio. This section incorporates three different makes of concrete ties, along with control sections of wood ties.

What sets this test apart from other such installations is the careful planning that went into it, which includes, among other thing, provision for frequent operation of a track-measuring car over the test section. The purpose is to obtain data on which to base determinations of the relative performance of the different types of ties. Trackmen all over will be watching with more than the usual interest for the results from this test.

● **What about contract work?** The growing severity of the personnel problem has led to a disposition on the part of some engineering officers to think more and more in terms of resorting to the services of contractors for performing out-of-face track maintenance. This practice is now being followed to a limited extent. But here again, restrictions imposed by agreements with the Brotherhood of Maintenance of Way Employes are a stumbling block. Even so, it can be expected that 1969 will see a broadening of this practice, particularly for out-of-face track-surfacing work.

A long-standing aspect of the personnel problem is the difficulty of luring college graduates with engineering degrees into railroad service. If anything, this problem, too, is growing more, rather than less, severe. The fact that most roads offer starting salaries comparable to those proffered by other industries doesn't seem to help. College students apparently often consider that railroading lacks glamor and opportunities for advancement. There can be no doubt that, if railroads are to obtain the quota of college graduates they feel is needed, they will have to redouble their recruitment efforts. This problem will have a high priority in 1969.



● **Objective: Better machines.** Manufacturers of M/W machinery are continuing their efforts to develop improved machinery for use by track-maintenance forces. It seems that, in these efforts, the manufacturers in the field find themselves at any given time concentrating on particular types of machines. At the present time there are several types that seem to be getting major attention. One is tie-renewal machinery. Manufacturers in this area are vying with each other in efforts to develop machines designed to speed up the rate at which crossties are renewed without, of course, increasing the number of men required.

Machines for applying rail anchors comprise another area of unusual activity. Here the emphasis is on coming up with machines that will not only "hang" the anchors on the rail base but will also force them into the final position.

Strenuous efforts are being made by several manufacturers to perfect machines designed to reduce ties removed from the track to wood chips, the objective being to simplify the disposal problem. This problem has become more difficult as a result of the increasing practice of cutting old ties into three pieces to simplify removal from the track. These pieces must either be hauled away or burned. The first method is expensive. The second often meets with strenuous objections on the part of county and state authorities. That is why manufacturers are persevering in their efforts to perfect tie-chipping machines, even though the assignment is rendered unusually difficult because of the presence in the wood of pieces of metal such as parts of broken spikes and anti-splitting devices.

The manufacturers are, of course, also working in other areas. Efforts to improve on the efficiency and productive capacity of the already highly developed track-surfacing machines on the market are continuing. Ballast-cleaning equipment is also getting a good share of attention. In fact, there isn't a manufacturer who isn't fully aware of the need to keep his machines competitive by constantly exploring all opportunities for improving them. ■

CAR HANDLING CAME DOWN WHEN ABEX ECONOMATIC®

DT&I's busy north-south hump yard at Flat car retarders and switch machines.

Four years ago the Detroit, Toledo and Ironton took a hard look at its main yard and terminal located at Flat Rock, Michigan.

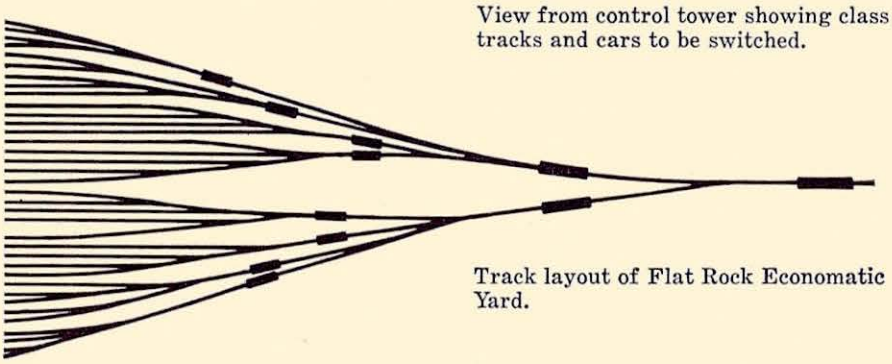
The railroad found the yard running out of capacity to handle traffic increases forecast for future years.

The DT&I solved its problem by completely reconstructing the yard and converting it from flat switching to gravity, with all operations based on the Economatic yard concept developed by Abex.

View from control tower showing class tracks and cars to be switched.

This fully-automated, console-controlled 36-track yard has handled over 1900 cars over the hump in 24 hours—and it is not yet being used to full capacity. A second lead over the crest remains to be installed when additional capacity is needed.

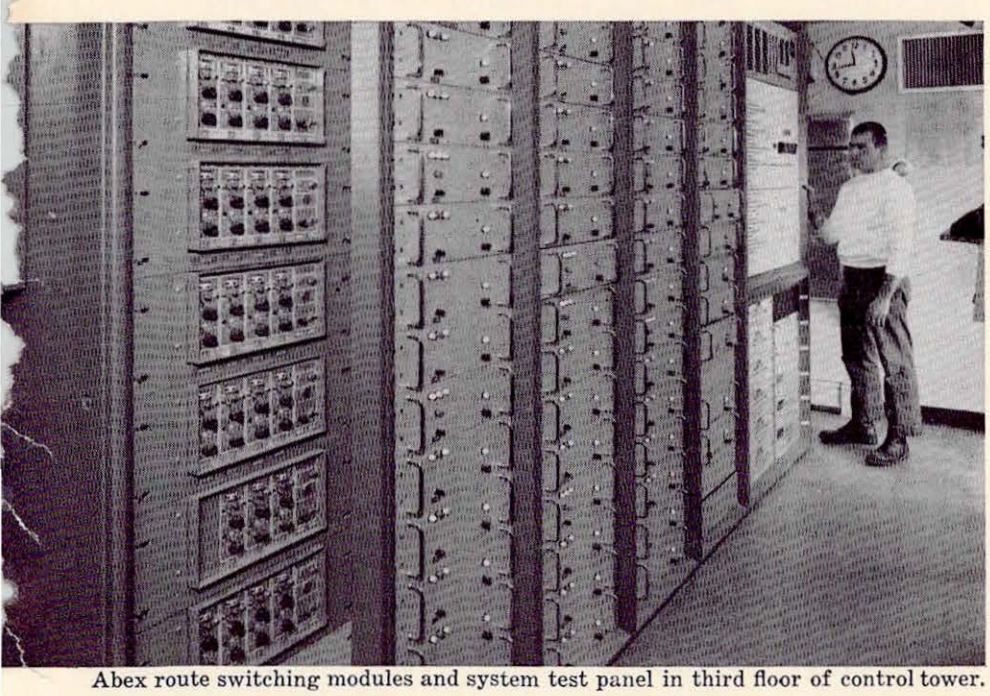
In less than a year, operating improvements have paid off in faster service to shippers and reduced costs for the DT&I.



Track layout of Flat Rock Economatic Yard.

WENT UP AND COSTS DT&I CONVERTED TO CONCEPT!

Rock keeps traffic rolling with help of Abex route switching,



Abex route switching modules and system test panel in third floor of control tower.

Here are just a few important benefits:

Improved handling of crossover cars... reduced yard switching time for pullers... reduced terminal delay for road trains... reduced time for cars to move through the terminal!

Abex track-side equipment at Flat Rock presently consists of:

- Route switching system and operator's console.
- 1 double-length Racor hydraulically-actuated, weight-compensating retarder below the hump crest.
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- 35 Racor hydraulic switch machines.
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The DT&I's Economatic yard at Flat Rock is another outstanding example of the time- and money-saving efficiency of equipment designed by Abex. Further proof is available in the yards of leading railroads throughout the U.S.

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1969 OUTLOOK

Common ownership may get

Tax changes are also high on the list of AAR objectives. Among them are such things as amortization of the costs of mergers, acquisitions of control and other reorganizations.

By FRANK MALONE, Washington Editor

Is there any way to get a deep-enough Congressional look at transportation to stop the trend toward chaos? One answer might be to introduce a transport bill that stirs so much debate that, whether the bill passes or not, legislators look beyond special interests at the general issue.

The bill would have to involve all modes. A good one would be a measure seeking freedom for rails to diversify—within the transport field. Such a proposal may reach the floor in the 91st Congress. It may come from a segment much in need of Congressional help, the rail industry. The Association of American Railroads says it will try to get introduced a bill for transport common ownership—probably.

That proposal tops the list of AAR's principal legislative objectives for 1969, a list that is substantially the same as that of eight years ago. After the first item, "removal of obstacles to transport diversification," come "great freedom for the railroads in the pricing of their competitive services," "adequate user charges for publicly-provided transportation facilities," "provision for binding determinations in railroad labor disputes," and "grade-crossing protection—recognition of public responsibility for the cost thereof."

Other principal goals cover taxes. They include amortization of grading and tunnel bores; amortization of expenses of mergers, acquisitions of control and other reorganizations; protection against discriminatory state and local taxation.

For AAR, however, announcement of principal legislative objectives does not mean automatically an attempt this year to move the proposals from paper list to Congressional hopper. Apparently, the proposals may or may not be introduced. Further action will depend on the Capitol climate. In fact, of the eight principal items, just two made it to the Hill last year. In 1968, the second tax objective was introduced in the House, but there was no action. The third tax item reached both Senate and House, and was reported out in the Senate but never voted on. Two other objectives, listed as additional for 1969, made greater progress last year. Passed by the Senate but lost in the House judiciary committee, was a proposal to label as a criminal offense any dangerous action toward persons aboard trains. Passed by the House but lost in the Senate Finance Committee was a proposal for income tax coverage for certain casualty losses.

● **What's common ownership?** AAR says the exact language of the common ownership bill remains to be drafted. In general, however, what AAR would seek is a change in the law to make possible full transportation companies, rather than just railroad companies. "It's the department-store transportation concept," a spokesman says. An example is Canadian Pacific. The company operates 21,000 rail miles, 19,500 truck miles, and flies or flows cargo to 15 countries on five continents.

● **Some conditions.** The chance for passage of the bill is a separate matter. What's immediate is the chance even for introduction. Despite AAR's announced intention to get common ownership introduced, conditions must be met that will affect the progress of that intent.

The Senate Commerce Committee and the House Interstate and Foreign Commerce Committee must be persuaded to hold hearings. A sponsor must be found in both House and Senate for actual introduction. Support must be gained from the Department of Transportation. Differences between modes must be ironed out.

AAR still can call the whole thing off, and return common ownership to the dormancy it has suffered since 1960.That year, the proposal faded after two hearings before the Senate Commerce Committee, apparently from lack of support from the railroads themselves.

● **The time is ripe.** Right now, however, there's a plan for a big push. AAR says the time is ripe, though it's hard to find support for that view from men on the Hill. Rep. Harley O. Staggers (D.-W. Va.), chairman of the House Interstate and Foreign Commerce Committee, says he is unaware of AAR intentions—nobody has been there to sound him out. Sen. Warren G. Magnuson (D.-Wash.), chairman of the Senate Commerce Committee, apparently hasn't been approached, either. Spokesmen for other members of the Senate committee and staff members for both committees say they have heard nothing about the AAR plan. They agree it's worth watching as a significant legislative proposal.

At present, it's difficult to gauge AAR's groundwork on the Hill. It is possible that support has been lined up that AAR is reluctant to talk about. A truck spokesman comments: "They won't have any trouble finding a sponsor."

Another reason for pushing common ownership is that the time is short for finding rail remedies. "It was desirable before, now it's imperative," says Thomas M. Goodfellow, AAR president. "Strengthening the railroads this way is something that must be done if we are to remain competitive," he says.

big '69 push

AAR refers to recent statements by DOT officials that seem to support common ownership. Secretary of Transportation Alan S. Boyd says he subscribes to statements of one of his assistants calling for drastic de-regulation to permit cross-ownership within the industry. Will this outlook be shared by the new Secretary, John A. Volpe? A spokesman says: "Mr. Volpe has given much thought to common ownership, just as he has to other transportation issues. But he has reached no decision relative to it. He's studying all the aspects, challenges and problems, but will have no policy statements until he takes office."

● **Modal problems.** AAR also must measure and moderate opposition from other modes, especially trucklines. J. David Brothers, American Trucking Associations board chairman, says: "In view of the admitted doubt as to present rail ownership, plus the widespread tie-in of the rails with other power economic interests, it seems to me unthinkable that they also would be permitted to gobble up their competitors."

Claiming that common ownership is closer than truckers realize, Brothers calls for a Congressional investigation into who owns the railroads. One Hill source calls DOT backing crucial: "The push will have to come from the Administration. Without that backing, I don't see how they can get the bill through."

As for airlines, a spokesman says the industry traditionally has stood against the concept of common ownership. But further comment will have to wait until the railroads reveal the terms of their proposal. "It's possible they could come up with something very attractive to us," the air man says.

A Hill legislative aid says: "Truckers are thorough. They apprise Congressmen completely about what they want."

The view is shared by other Hill staff members as well as government and industry people. One opinion goes like this: "To succeed on the Hill you need your employees and the public behind you. Rails have no support from labor or from the public."

● **Other objectives.** There are seven more items on AAR's list of objectives. Prohibition of for-hire transportation by private carriers, repeal of the Interstate Commerce Act commodities clause except for coal, amendment of Section Four of the Safety Appliance Act to increase safety in movement of defective rail cars, and prohibition of picketing by rail employees on strike.

Additional tax objectives include technical amendments for rail problems with reorganizations and consolidated returns, limitation on offsets by the U.S. against refunds claimed by taxpayers, and writeoffs for the costs of grade-crossing separations and protective devices and for assessments for public improvement projects.

● **Safety may get government push.** Two of AAR's objectives concern safety, recognition of public responsibility for grade-crossing protection and amendment of the Safety Appliance Act to cover bad-order moves. These are small compared with the broad rail-safety legislation that many observers believe is needed. No formal government legislative goals are ready for announcement.

However, if a DOT rail-safety bill comes this year, as signs seem to indicate, it might include these elements: government-drafted and-enforced safety standards for rail facilities and equipment and for their inspection; an official study, perhaps for two years, of management and employee practices regarding safety; and an advisory board on safety for the Secretary of Transportation.

Backers of greater federal jurisdiction over rail safety point to facts that railmen would like to overlook. Although the number of fatalities and injuries is dropping little by little, the number of train accidents continues to rise. Latest Federal Railroad Administration figures show there were 28 more accidents in October 1968 (632) than in October 1967 (604), for an increase of 4.3%. There were 531 more accidents in the first ten months of 1968 (6,473) than in the same 1967 period (5,942), for an 8.2% jump. For 1967 there was a 7% increase in accidents over 1966.

"The railroads are looking only at the casualty figures when they say safety's improving. They aren't looking at the cost of accidents to themselves and to the public," one government official says.

● **Start toward passenger legislation.** If the total transport issue fails to reach Congress, there's good reason to think a specific issue, passenger service, will get there this year. With the prodding of several Congressmen, including Staggers and Magnuson, the Interstate Commerce Commission is burrowing the nebulous area of avoidable costs of passenger service. Findings on what railroads really lose on passenger trains are promised for April.

The ICC cost study could be the start of broad Congressional exploration of the entire national passenger-train situation.

There's still another way to get Congressional attention focused on transportation as a whole. That's through introduction of DOT's proposed trade simplification act that would loosen the knots in international movement of goods. The Act cuts through all modes in its provision for through, single-factor tariffs (joint rates), uniform commodity codes, and single bills of lading—all free from anti-trust limits. The bill got only two days of Senate Commerce Committee hearings in 1968. A DOT official says the bill should be ready for re-introduction before summer.

● **Goals of other modes.** The truck, air and water legislative goals for the 91st Congress haven't been announced formally. Here are some possibilities:

—Truckers may seek a new size-and-weight bill for bigger truck hauls, denial of contract rates between railroad and freight forwarders, and various measures to insure what the trucking industry views as adequate regulation of transportation (prevention of competitors' free entry).

—Airlines may go after airport expansion, relief from flight limits on major airports, controls overhaul, fare increases, and airport user charges.

—Waterway operators may seek a single set of rules for navigation of U.S. waters, clear protection from overliability in any water pollution act, and defeat of proposed user charges for inland waterways. ■

1968 REVIEW

BY BURTON N. BEHLING,
VICE PRESIDENT,
ECONOMICS AND FINANCE DEPARTMENT,
ASSOCIATION OF AMERICAN RAILROADS

TOFC continued to set new

HIGHLIGHTS OF 1968 AND THE OUTLOOK:

For railroads 1968 was a year of progress amidst difficulties stemming from the continuing inflationary spiral that affects the nation's economy.

Freight traffic and revenues reached all-time highs, piggyback (TOFC) traffic continued an unbroken string of year-to-year records, unit-train operations gained further momentum in both geographical extent and range of commodities transported, advances in modern technology for greater economy and efficiency continued to spread in many directions, and several important mergers were consummated or brought closer to fruition. Principal among the latter was completion of the Penn Central merger joining the Pennsylvania and New York Central systems effective Feb. 1, 1968. Inclusion of the New Haven into the new system followed on Jan. 1, 1969. These and other constructive developments are discussed in the following pages of this report.

The situation as to earnings, however, was much less satisfactory as the effects of inflation on railroad costs took their toll. For the second successive year the carriers were compelled to seek general increases in freight rates to offset in part rapidly mounting expenses. Despite the increases authorized by the Interstate Commerce Commission and the benefit of a higher level of freight traffic, net earnings for the year were not much improved over the extremely low level to which they had fallen in 1967 and remained far less than in 1966. The rapid tempo of inflation also has created a serious problem of the time lag involved in regulatory proceedings, since rising expenses not promptly compensated for in rate adjustments represent revenues forever lost.

The Class I railroads managed to spend about $1.3 billion in 1968 for capital improvements and technological advancements, notwithstanding the severe impact of impaired earnings and the high cost of borrowed funds. Including leased and private cars, nearly 70,000 new and rebuilt freight cars were brought into the fleet. Capital expenditures for facilities other than equipment were greater than for any year in more than a decade as the railroads intensified efforts to improve their roadways and structures. However, total capital spending was barely two-thirds that attained in 1966.

Also moving ahead are railroad programs for installing computerized data systems and sophisticated communications equipment to provide management with more effective control of the nation's 1,800,000 railroad-owned and private freight cars. These programs are scheduled to bring automatic car identification (ACI) systems into operation on the major railroads by Jan. 1, 1970. The related Tele-Rail Automated Information Network (TRAIN), a nationwide, computerized system for tracking freight car locations, will begin in 1969.

Initiation of rapid rail service on the Corridor Project between Washington, New York and intermediate points, which has been delayed because of mechanical difficulties with new equipment, is now scheduled to commence in mid-January 1969 on a limited basis. On the less favorable side, rail passenger travel in general continued its long-term downtrend, declining 14% in 1968, but the commutation component of total rail travel increased slightly.

Looking ahead, a most critical problem for the railroads as well as for the economy generally in 1969 can be summed up in one word: INFLATION. The need to dampen inflationary pressures by fiscal and monetary steps effective to this end is now widely recognized as an urgent matter of national policy. Actions required to be taken are likely to retard somewhat the pace of economic growth in the months ahead, although an actual downturn in the level of general business activity is not foreseen at this time.

Along with other necessary measures to curb inflationary pressures that now distort the functioning of both the domestic and international economies of the United States, it will be essential to hold further increases in wage levels and other labor costs within real gains in productivity and efficiency. Unless this is done, the objective to restrain inflationary excesses will involve grave risk of an eventual correction by recession. For the railroads particularly, an important part of such remedial action involves continuing efforts to maintain work rules which promote efficient and economical operations.

records

Financial results

Railroad freight traffic and operating revenues followed trends in the nation's economy to new high records in 1968, but expenses also topped previous peaks, leaving net earnings near the low and inadequate level to which they fell in 1967.

Economic aspects of the railroad situation in 1968 were to a very large extent a reenactment of conditions in 1967, as rising costs of labor and materials continued to outrun needed rate adjustments. Demonstrating the consequences of time lag associated with economic regulation, railroads realized about $130 million less from authorized interim freight rate increases in 1968 than would have been realized if proposed increases (discussed herein under "Rates and Fares") had been applied both interstate and intrastate on May 27, the effective date of the original master tariff.

Actual results of operations are shown in Tables 1 to 5 for the years 1966, 1967 and the 12-month period ended September 30, 1968, together with estimates for the calendar year 1968. Results for calendar 1968 differ from those shown for the 12-month period ended September 30 to the same extent that fourth quarter 1968 results differ from those of fourth quarter 1967. Since current indications are that fourth quarter revenues were greater in 1968 than in 1967 and that net operating income will show little change, while net income for the quarter may prove to be less than a year ago, it is estimated that results for the calendar year will include:

(1) Operating revenues of approximately $10,840 million, up more than $450 million from 1967 and nearly $200 million greater than the 1966 total;

(2) Net railway operating income amounting to an estimated $725 million, about $50 million greater than in 1967 but some $320 million below comparable earnings in 1966;

(3) Rate of return on net investment 2.60%, based on the estimated

(Continued on page 58)

Table I: Rate of Return and Net Income—1958-1968

Year	Net railway operating income (millions)	Rate of return on investment after depreciation	Net income after fixed charges* (millions)
1958	$762	2.76%	$602
1959	748	2.72	578
1960	584	2.13	445
1961	538	1.97	382
1962	726	2.74	571
1963	806	3.12	652
1964	818	3.16	698
1965	962	3.69	815
1966	1,046	3.90	904
1967	676	2.46	554
12 mos. to 9/30/68	723	2.60	597
Year 1968 estimated	725	2.60	575

* Ordinary income before extraordinary and prior period charges and credits.

Note: Statistics shown above and elsewhere in this Review are for Class I line-haul railroads unless otherwise indicated.

Table 2: Condensed Income Account—1966, 1967 and 1968

	1966 (millions)	1967 (millions)	12 mos. to 9/30/68 (millions)	Year 1968 estimated (millions)
Total operating revenues	$10,655	$10,366	$10,747	$10,840
Total operating expenses	8,118	8,204	8,451	8,515
Taxes	968	910	941	950
Rents (net debit)	523	575	631	650
Total expenses, rents and taxes, excl. Fed. inc. taxes	9,422	9,623	9,950	10,040
Ratio to revenues	88.4%	92.8%	92.6%	92.6%
Net railway operating income	1,046	676	723	725
Net income (ordinary)	904	554	597	575

Table 3: Operating Revenues—1966, 1967 and 1968

	1966 (millions)	1967 (millions)	12 mos. to 9/30/68 (millions)	Year 1968 estimated (millions)
Freight	$ 9,281	$ 9,130	$ 9,624	$ 9,755
Passenger	544	485	454	440
Mail	304	264	205	190
Express	67	61	46	40
All other	459	426	418	415
Total	10,655	10,366	10,747	10,840

Table 4: Operating Expenses—1966, 1967 and 1968

	1966 (millions)	1967 (millions)	12 mos. to 9/30/68 (millions)	Year 1968 estimated (millions)
Maintenance of way	$ 1,304	$ 1,288	$ 1,363	$ 1,390
Maintenance of equipment	1,844	1,868	1,892	1,890
Transportation	4,139	4,186	4,307	4,340
Traffic, general and other	831	863	889	895
Total	8,118	8,204	8,451	8,515

Table 5: Railway Tax Accruals—1966, 1967 and 1968

	1966 (millions)	1967 (millions)	12 mos. to 9/30/68 (millions)	Year 1968 estimated (millions)
Payroll taxes	$439	$477	$502	$510
Federal income taxes	186	66	73	75
All other taxes	343	367	367	365
Total taxes	968	910	941	950

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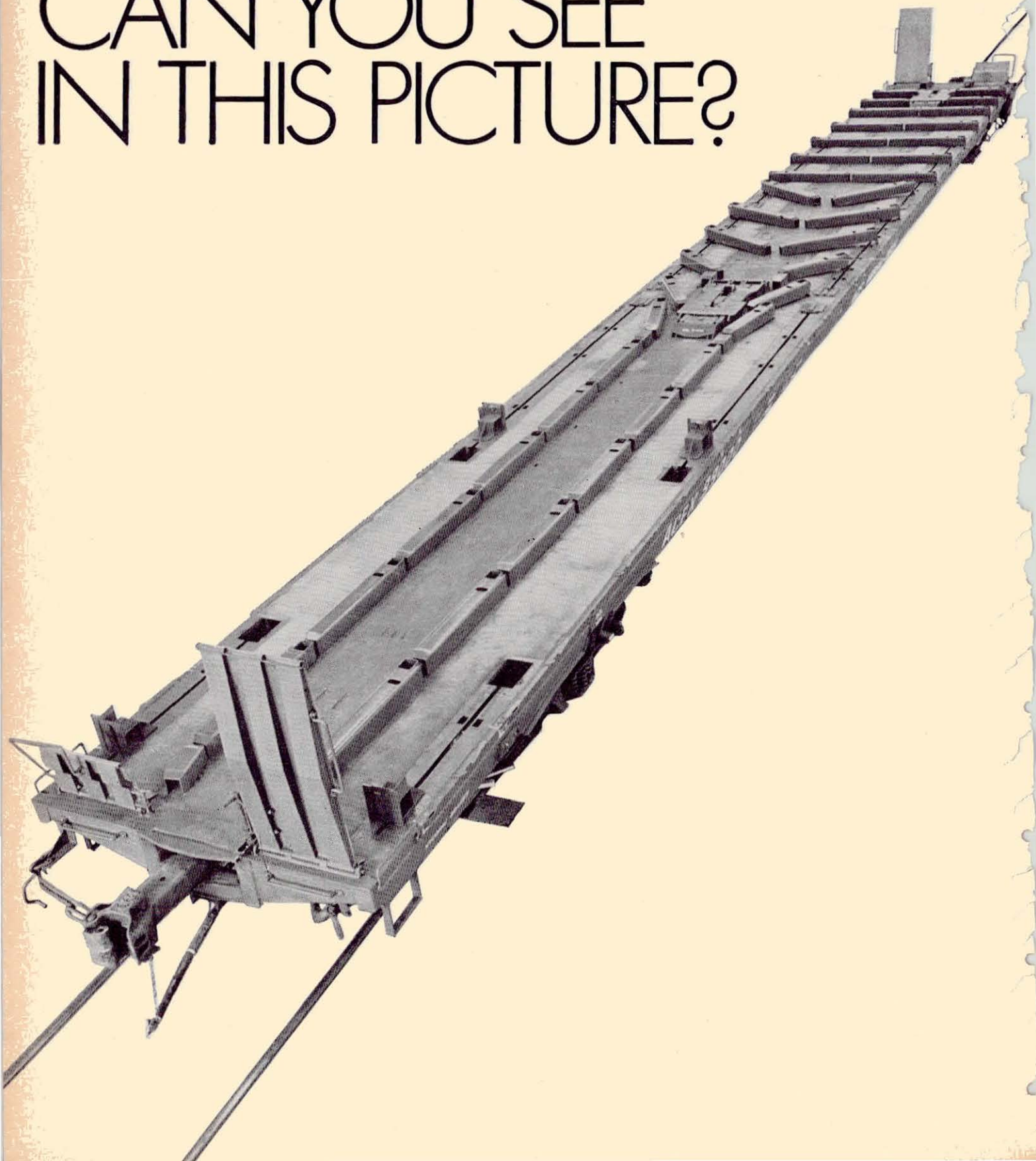

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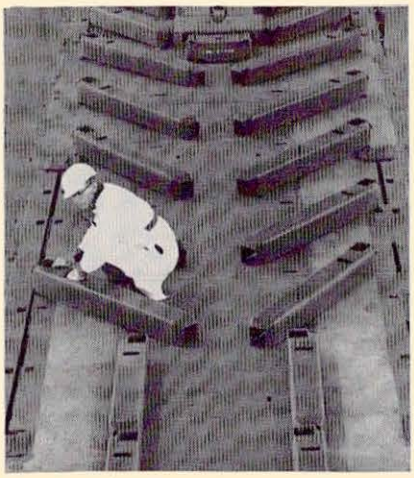

Steel guide rail sections swivel easily to double as permanent bulk load dunnage.

to or from a COFC, TOFC, or bulk lading configuration in less than 15 minutes.

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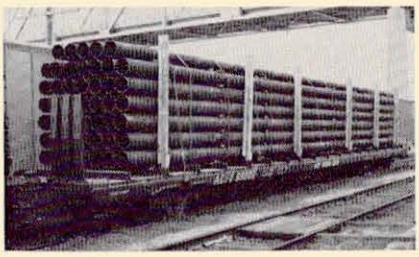

Versa-Deck's 89' length lets you move long loads without employing idler cars.

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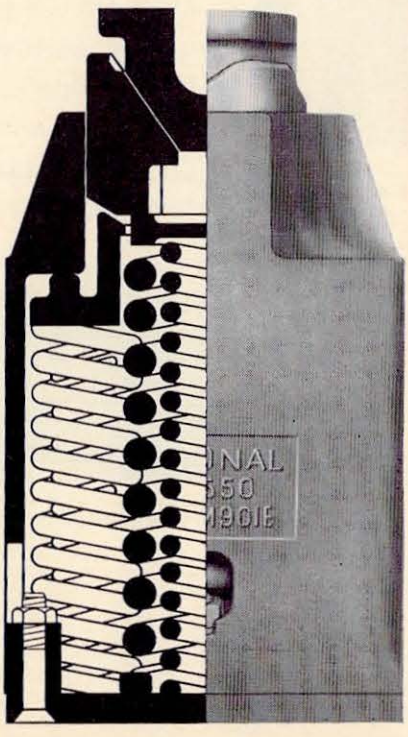

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Developed and extensively pretested at National's Technical Center, NC-550 achieves maximum performance with minimum wear. This is achieved through an improved three-shoe friction clutch mechanism combined with steels having a balanced combination of optimum surface hardnesses. Another unique feature of the NC-550 gear design is a self-adjusting mechanism which equalizes bearing on all friction surfaces when gear is compressed to insure smooth uniform gear action. This feature alleviates sticking of the friction system and facilitates release after gear compression. NC-550 Gears have a capacity of 39,700 ft-lbs at 658,000 lbs force and 3.29 inches A.A.R. rated travel.

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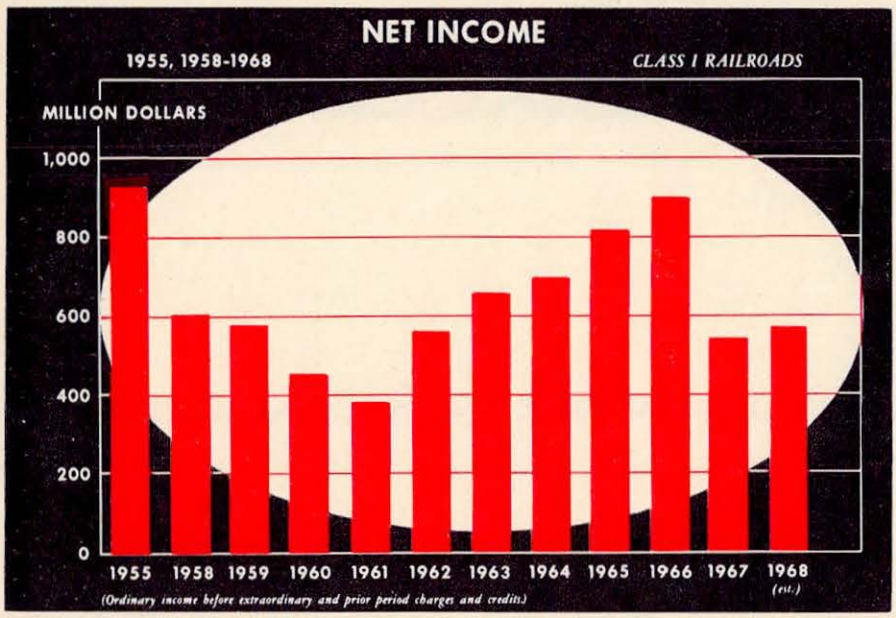
(Continued from page 53)

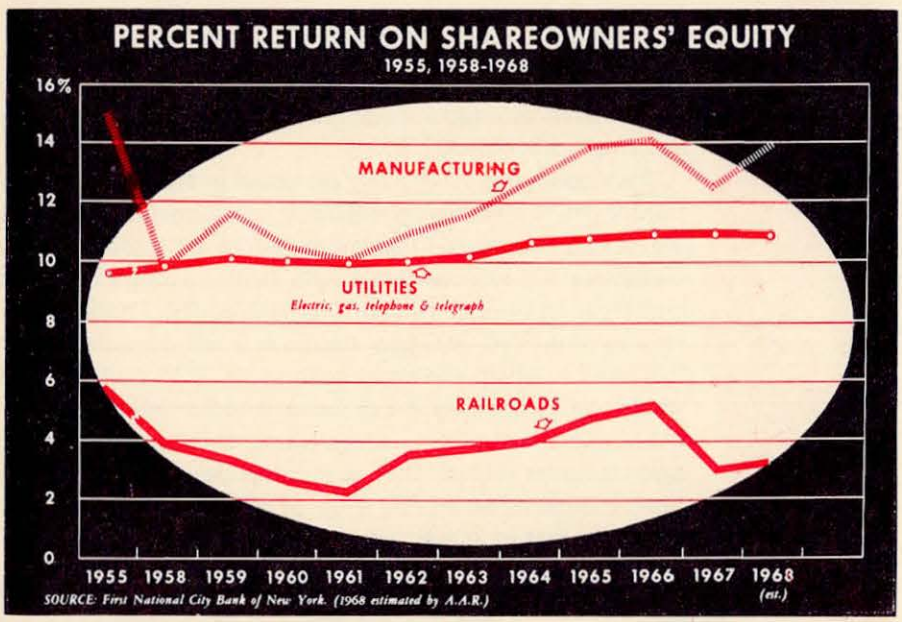
operating net of $725 million, only slightly above 1967's return of 2.46%, and one-third less than the moderate 3.90% earned in 1966;

(4) Net income in the range of $575 million, before extraordinary charges and credits, up only slightly from 1967 and some $300 million to $350 million below the $904 million earned in 1966.

It is particularly significant and symptomatic of economic pressures in 1968 that only about 10% of the added revenues generated by greater total traffic and higher rates was carried through to net railway operating income. The other 90% was consumed by higher wage rates, rising material prices, higher payroll tax rates applied to increased taxable wages, and greater outlays for the rental of rolling stock.

Unit costs, expressed in terms of expenses, rents and taxes, except Federal income taxes, per 1,000 gross ton-miles, averaged about $5.97 in 1968, up from $5.85 in 1967 and $5.58 in 1966. In addition, interest and other fixed charges averaged 31 cents per 1,000 GTM in 1968, up from 27 cents in 1966. Unit revenues, similarly measured, averaged $6.45 in 1968, up from $6.30 in 1967 and $6.31 in 1966. Thus, estimated revenues were only 14 cents higher per 1,000 gross ton-miles in 1968 than in 1966, while unit costs including fixed charges were higher by 43 cents, or three times as much.





Analysis of 1968 revenues, both as reported for the 12 months ended in September and as estimated for the calendar year, shows the increase over 1967 to be wholly attributable to freight. For the calendar year passenger revenue was off nearly 10%, mail declined about one-fourth and express revenue, representing the railroads' receipts from the Express Agency, was down about one-third. The drop in passenger revenue was confined to intercity traffic, as commutation revenue showed a small increase.

Increases were recorded in all principal groups of operating expenses. Operating rents rose more sharply—by an estimated $75 million or 13%—reflecting a continuing trend toward equipment leasing in lieu of ownership, owing to financial circumstances of various railroads.

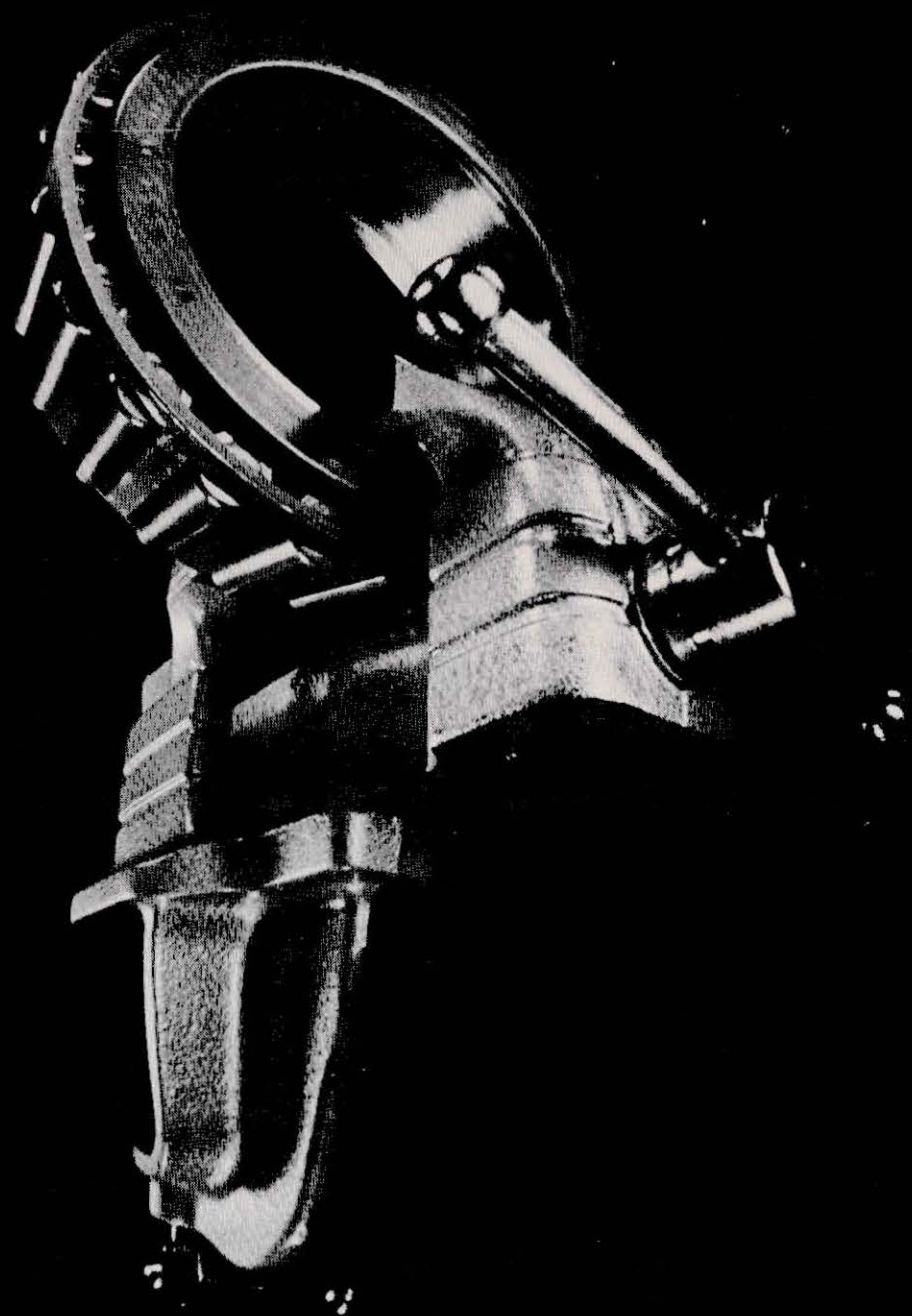
An increase in taxes was due primarily to changes in the payroll tax rate and base for Railroad Retirement and hospital insurance. That rate was raised from 8.65% in 1967 including .5% for medicare, to 8.90% in 1968, including .6% for medicare.

Also effective Jan. 1, 1968, the maximum taxable compensation per employee per month was raised from $550 to $650.

The payroll tax rate in 1969 will be 9.55%, including .6% for medicare, resulting in a maximum monthly tax of $62.08 per employee. This amount is paid by the employer, and an identical amount is paid, through payroll deduction, by the employee. In addition, the employer alone pays 2 cents per man-hour for supplemental annuities to certain retired employees and pays up to $16 per month per employee—4% on a maximum of $400—for unemployment and sickness benefits.

The scheduled increase in payroll taxes, which will cost the Class I railroads about $28 million in 1969, is but part of the pattern of cost increases which the railroads must meet in the year ahead. A general 2% wage increase effective Jan. 1, 1969, will cost about $100 million during the year. A general 3% wage increase on July 1 will cost about $150 million on an annual basis and about $75 million in 1969. Railroads will also feel the full annual cost in 1969 of wage increases which, having been in effect for only the last half of 1968, will cost about $125 million more this year than last. Rising material prices may be expected

(Continued on page 64)



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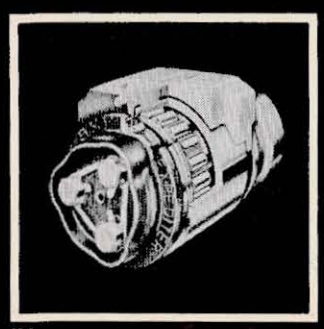

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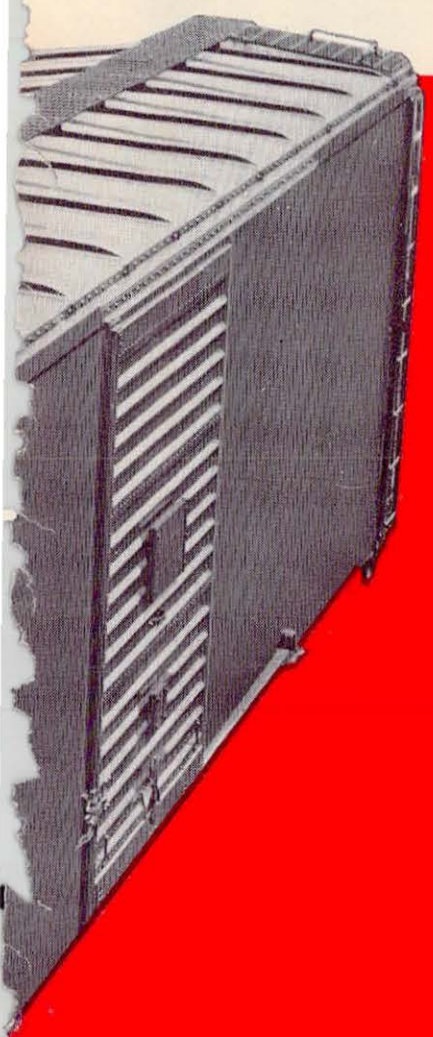

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The strongest design possible for its depth. Resistance to twisting stresses keeps the car frame square. Lasts the life of the car.

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The corrugations of Standard Dreadnaught Ends provide the greatest resistance to shock and impact—add strength where it's needed most.

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Circle 31 on coupon page 103

IESP

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What may sound like a brash claim to you sums up ESP—our Extra Service Program—very nicely.

Because under this program, we remanufacture your prior-service Timken® "AP" bearing the same way we manufacture new ones. And we include our standard written Timken bearing warranty.

Which means that even as you replace worn wheels, Timken "AP" bearings will continue to perform, inspection period to inspection period, just as new "AP" bearings.

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TIMKEN®
TAPERED ROLLER BEARINGS

Circle 35 on coupon page 103

(Continued from page 58)
to add between $50 million and $100 million to 1969 expenses.

Thus, leaving aside any change in the level of employment and operations, the railroads face at least $400 million of cost increases in 1969. To meet them they will have, assuming the same level of freight traffic, some $300 million more in increased freight charges under the present Ex Parte 259 authorization than they realized from the interim authorizations in 1968. The remainder must be covered by efficiency gains and economies before progress can be made toward improvement in the low 1968 level of net earnings.

Capital expenditures

Outlays for new and rebuilt equipment and for other additions and betterments amounted to an estimated $1.28 billion in 1968. Although the level of capital spending declined again, as it had in 1967, the total exceeded $1 billion for the sixth year in succession. Purchases of materials and supplies increased.

Reduced spending for capital improvements in 1968 reflects continuing financial stringency, resulting from low and inadequate earnings, mounting equipment debt and high cost of borrowing, forcing many roads again to postpone or curtail capital programs.

Capital outlays by Class I railroads for the year 1968 included approximately $870 million for equipment and $410 million for improvement of roadway facilities. The estimated total of $1.28 billion is down about 16% from the previous year's $1.52 billion and 34% from the 1966 peak of $1.95 billion. The equipment figure represents a decline of 24% from 1967 and 44% from 1966, but the projected $410 million for roadway is not only higher than comparable amounts for either prior year but represents a 38-year high, disregarding the decline in purchasing power of the dollar.

Class I railroads' capital expenditures tell less than the full story of railroad modernization. Railroads in 1967 acquired more than 15,000 freight cars and nearly 300 locomotive units by leasing rather than buying, and more than 24,000 cars were acquired in that year by so-called "private" car companies—a term which embraces all car-owners other than railroad companies and includes such railroad subsidiaries as the Trailer Train Company and the railroad-controlled refrigerator car companies. These leased and private units added more than $600 million to the $1,522 million spent by Class I railroads in 1967. Similar acquisitions are estimated as having added between $400 million and $500 million to the $1,280 million indicated Class I railroad total for 1968. As noted earlier, lease instead of purchase of equipment has added substantially to the railroads' equipment rental payments in recent years.

The outlook for capital expenditures in 1969 was improved by the Interstate Commerce Commission's action in late November 1968, authorizing the carriers to put into effect with few exceptions the freight rate increases they had proposed early in the year. An estimate for the first quarter, compiled by government agencies, sees railroad spending rising 9% over the corresponding amount in 1968. The level of outlays in the remainder of the year will necessarily depend to a large extent upon the industry's ability to marshal the required funds in the face of continued cost escalations, limited earnings, and high interest rates.

● **Purchases.** Railroad spending in 1968 for the fuel and other materials and supplies used in operations and maintenance is estimated as having approximated $1.7 billion, up about 7% from the 1967 total of $1.6 billion. The estimate reflects a higher level of operations—up about 2% in terms of gross ton-miles—a higher price level, and little changes in inventories.

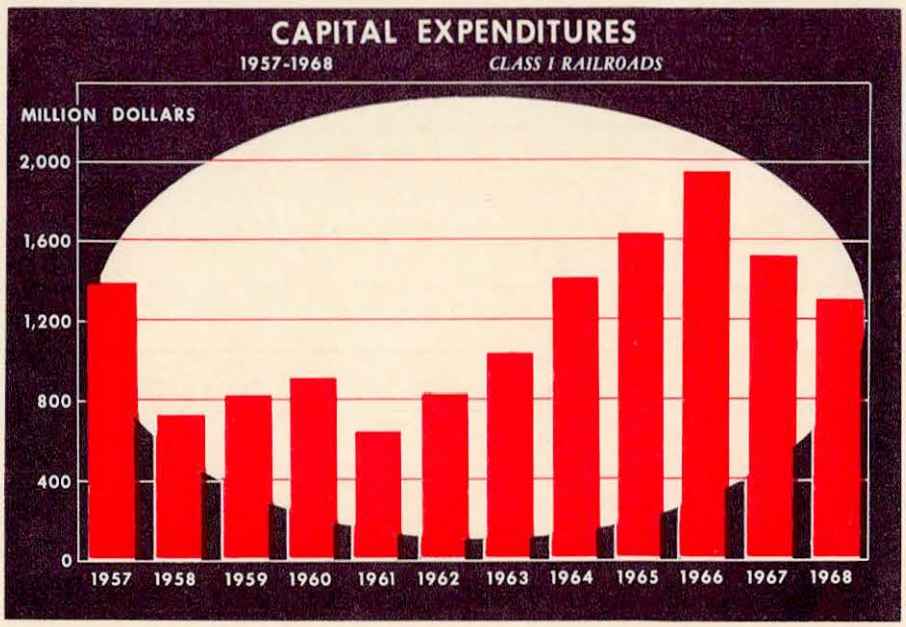
Computerization

Railroads continue to aim their efforts toward more efficient and economical operation and better service to shippers through applications of modern technology and engineering advances.

Table 6: Capital Expenditures and Purchases—1958-1968

Year	Gross capital expenditures: Rolling stock (millions)	Gross capital expenditures: Other facilities (millions)	Gross capital expenditures: Total (millions)	Purchases of fuel, material and supplies (millions)
1958	$ 480	$258	$738	$1,231
1959	568	250	818	1,430
1960	633	286	919	1,463
1961	427	219	646	1,262
1962	593	240	833	1,311
1963	785	259	1,044	1,401
1964	1,140	278	1,417	1,476
1965	1,304	327	1,631	1,498
1966	1,555	398	1,953	1,605
1967	1,148	374	1,522	1,591
1968 (est.)	870	410	1,280	1,700

Note: Capital expenditures of Class I railroads do not include expenditures for railroad equipment made by private car companies and lessors. (See text.)



● **Information systems.** Among the more dramatic and revolutionary recent developments are those in the area of data management, combining computer technology and modern electronics to provide comprehensive management information systems designed to put information resources to timely and productive use. Almost all railroads have such information systems in operation or in process of development in varying degrees of sophistication. Much of the current effort emphasizes the provision of information needed by shippers.

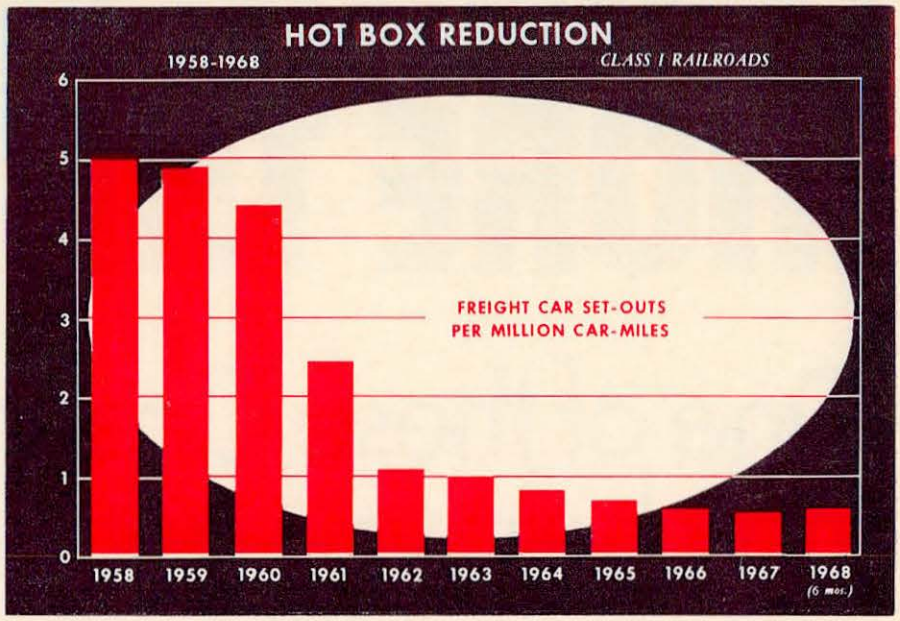
Railroads at the close of 1968 employed nearly 250 computers, of which more than 100 were of the so-called third generation, and had 30 to 40 additional on order.

There has been particular interest in industrywide information management programs, known by the acronyms UMLER, ACI and TRAIN, which are regarded as of major importance in helping to promote more effective use of the carriers' increasingly costly freight car fleet.

UMLER (Universal Machine Language Equipment Register) was implemented on Nov. 1, 1968, when it was made the official registry file of characteristics of the 2,000,000 freight cars in interchange service in the United States and Canada. The registry, which presently includes only 25% of the private line cars, will be made complete in the first quarter of 1969. Several railroads are already using UMLER in their management information systems; others are planning for its use in 1969.

Plans for TRAIN (TeleRail Automated Information Network) have been developed for implementation during 1969, centered upon new computer and information communications equipment at AAR's new Washington headquarters. Negotiations with nearby railroads are proceeding for initial transmission of interchange data in January 1969. The program contemplates that all interchanges of freight cars between railroads will be reported to the AAR Data Center, providing a continuous up-to-date nationwide inventory. The complete, timely and accurate car interchange information thus reported will enable AAR's Car Service Division to distribute cars more effectively between roads and geographic territories to meet varying demands.

ACI (Automatic Car Identification) is being installed on railroads throughout the United States and Canada. Two manufacturers are producing scanners which automatically read multi-colored retro-reflective tape labels of passing cars even at very high speeds and transmit the car initial and number, place, time and direction of movement to the railroad's computer center and local office. Installation of scanner systems is under way, and over 100,000 cars had been labeled through October 1968. The deadline for affixing ACI color-coded labels to all vehicles interchanged is Jan. 1, 1970.



● **Freight car improvements.** Aluminum, stainless steel, plastics and newly developed coatings are being used to a wide extent on newly-constructed freight cars to obtain better corrosion protection, lighter weight, less maintenance and more economical fabrication. Improved car appurtenances provide better ride quality and improve air brake systems, trucks, coupling and cushioning arrangements.

The problem of harmonic roll action in heavy high-center-of-gravity hopper cars has stimulated development of several designs of dampening systems. New designs include frictional dampers, hydraulic snubbers and elastomeric components to remove the energy developed in harmonic roll. The AAR Research center has developed several additional concepts to control rocking at critical speeds.

Improvement in performance of journal bearings has leveled off but earlier larger gains have generally been held. An average of 0.59 hot boxes per million car-miles of operation in the first six months of 1968 was approximately 7% higher than in the previous year but was little more than one-tenth the number reported ten years ago. Steps have been taken to restore the trend toward improved performance for all types of bearings. The freight car fleet is now approximately 25% equipped with roller bearings.

During 1968 a joint study was inaugurated by the AAR in cooperation with the Department of Transportation to develop a completely automatic coupling system. This coupler would embody also the functions of air hose connection, and interrogation system for indicating malfunctions within the train and possible supply of electric power to freight cars.

Refrigerator car improvements include new processes for applying insulation such as foamed-in-place polyurethane materials, a unitized roof fabricated from insulation material, and liquid nitrogen cooling systems which permit the temperature of a car to be controlled over long distances without attention.

● **Locomotives.** The principal change in locomotive horsepower during 1968 was the development of a medium-power locomotive containing a variety of gear ratios for use where tractive effort is of greater consideration than horsepower.

Electrification was incorporated in the construction of a new coal-hauling railroad and a locomotive was developed for this purpose that can be energized with 25,000-volt 60-cycle alternating current. Through the use of commercial frequency power, it is possible to modify the catenary system, reducing weight and maintenance and eliminating many intermediate substations. If the operation of this short railroad is successful, use of commer-

(Continued on page 68)

LOOKING FOR MORE TRAFFIC?

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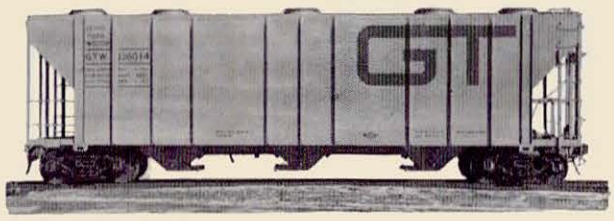
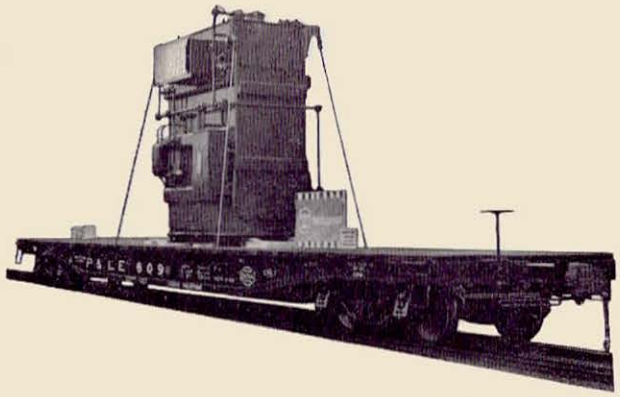
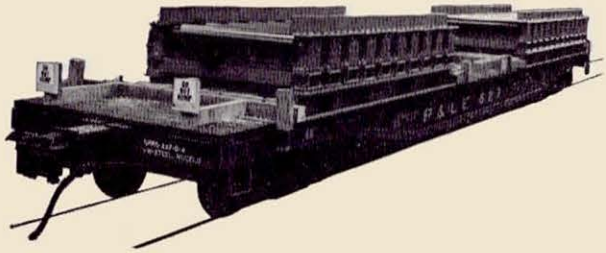
DRY BULK...



MACHINERY...





In any given year Greenville builds more kinds of cars than any other contract builder. Many are the first of a kind, selected as part of a concerted effort to win new traffic. As a result, Greenville can usually shorten the building cycle by modifying existing designs to help solve the problem at hand. An increasing number of traffic-oriented railroads include Greenville early in their planning sessions. The right cars can play a key role in your traffic development. Our experience can be important to you. Call us.

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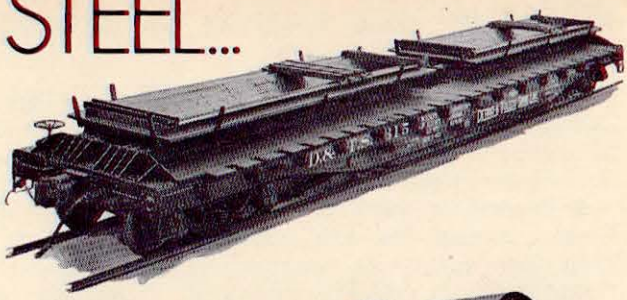
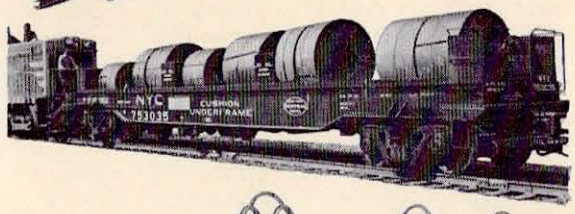
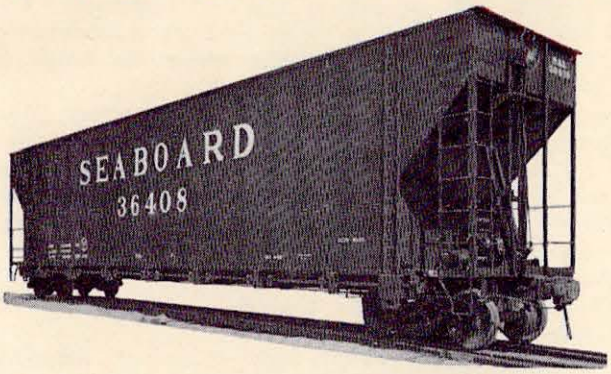
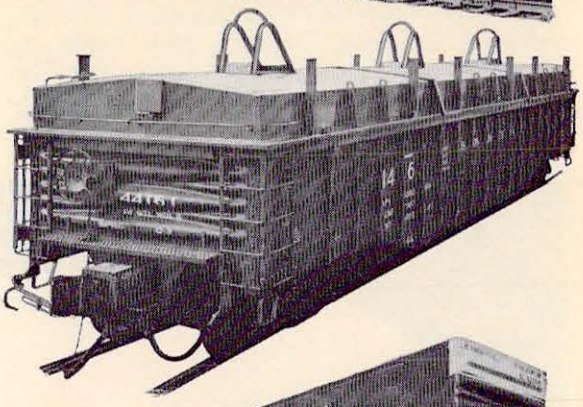
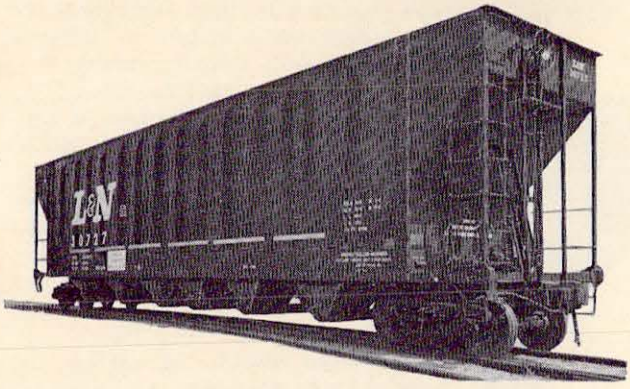




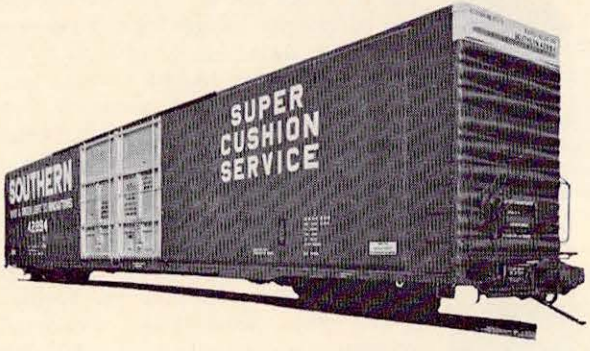
WOOD CHIPS...

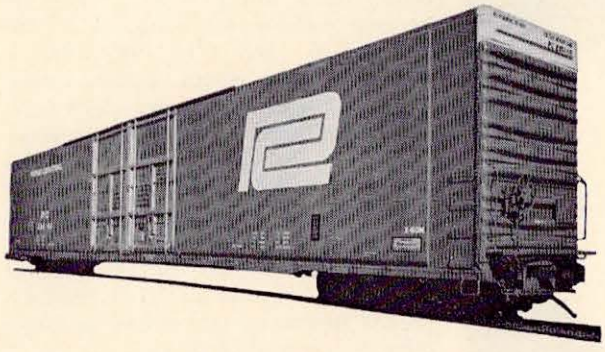




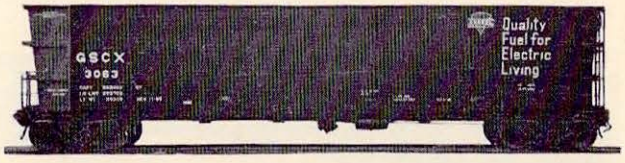


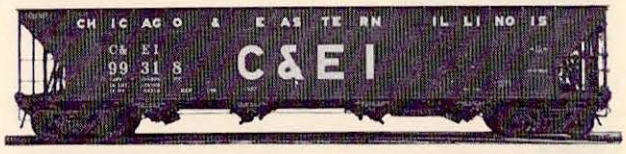
HIGH CUBAGE...

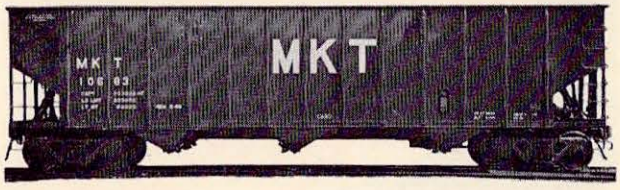




COAL...







GREENVILLE STEEL CAR COMPANY
Subsidiary of Pittsburgh Forgings Company
GREENVILLE, PENNSYLVANIA

Circle 26 on coupon page 103

(Continued from page 65)
cial frequency power and catenary may be applied to other railroad electrification systems in the United States.

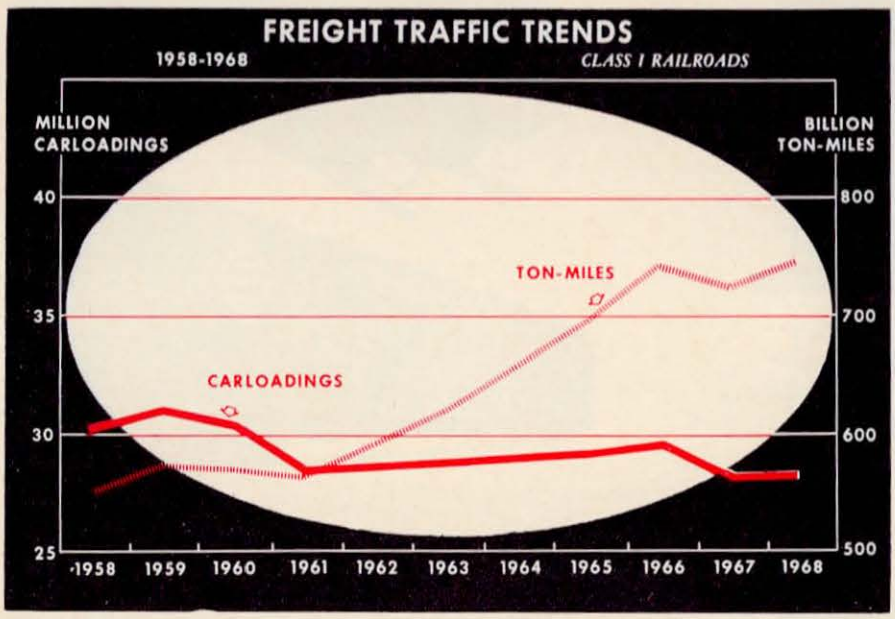
● **Progress in track and roadway.** Control cooling has been used for many years to prevent occurrence of shatter cracks in rail. This method of rail treatment requires expensive and elaborate steel mill equipment and restricts to some extent the length of rail produced. During 1968 an experimental heat of vacuum degassed steel was rolled into rail and placed in track. This rail was not control cooled, as the vacuum degassing process of manufacturing steel is thought to prevent development of shatter cracks.

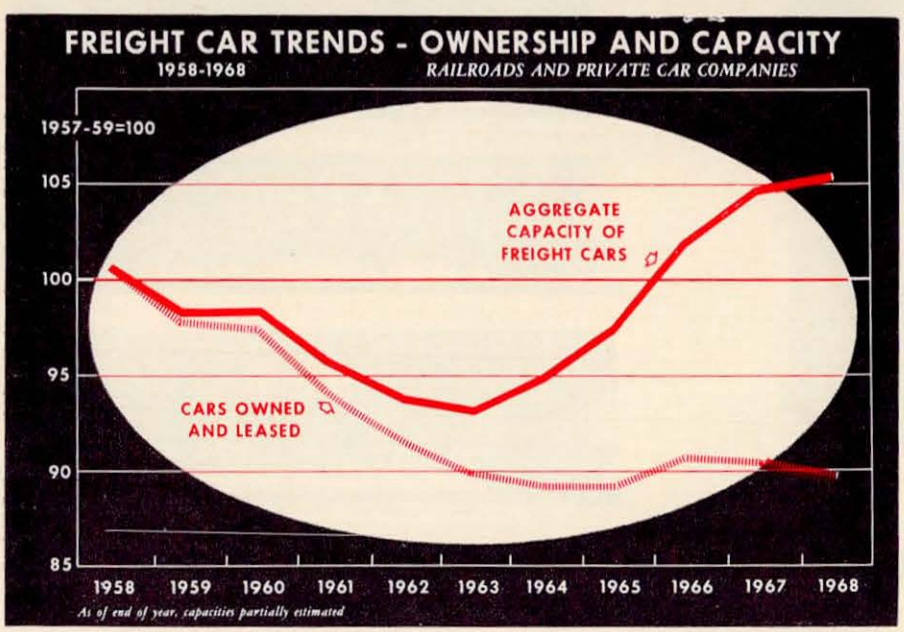
Latest figures show that 2,683 track-miles were laid with welded rail in 1967. Many additional miles were prepared by field welding existing rail in track. Modifications in field welding processes are constantly being evaluated and new processes introduced.

An AAR research project will endeavor to determine optimum size and spacing of ties in track. A one-mile test section of railroad has been laid with wooden ties of various cross-sectional areas, lengths and with a variety of tie spacing. This section of railroad has approximately 25 million gross tons of traffic per year—about three times the national average.

A test car has been developed to measure track characteristics under load. Electronic equipment measures and records such data as the twist or warp of track, rail alignment, variations in gauge and track superelevation while operating within the range of freight train speeds.

New devices for measuring alignment employ lasers and other types of light beams. Another innovation using light produces a clearance outline based on reflections from obstructions along the right-of-way.





Traffic trends

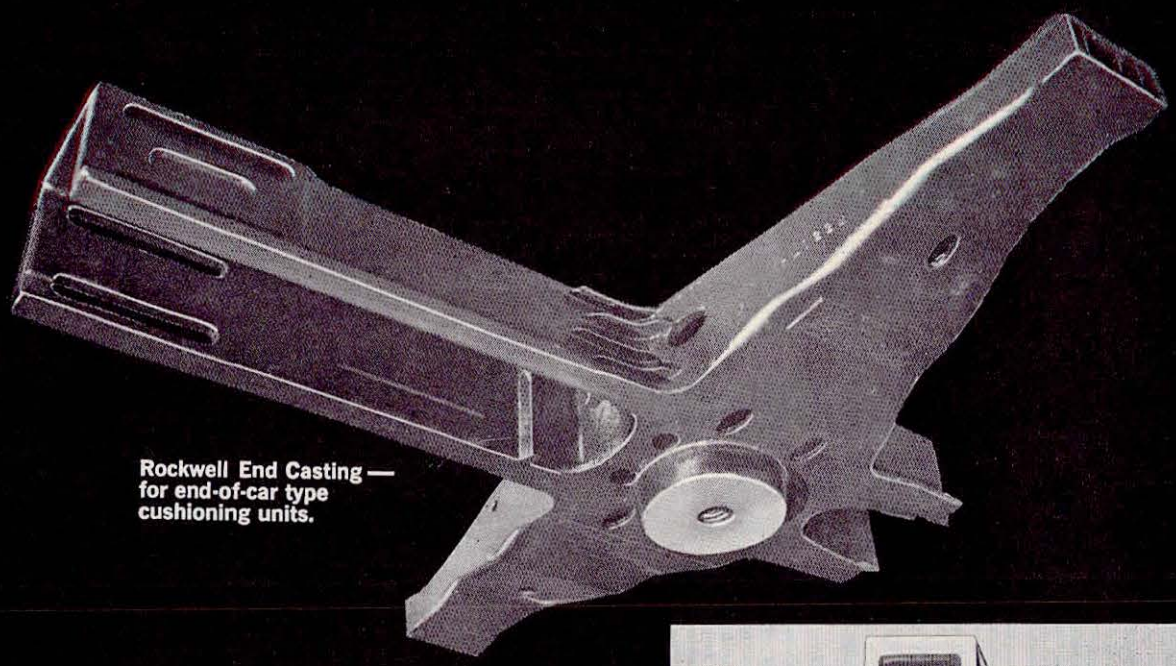
All-time highs in revenue ton-miles and piggyback loadings highlighted the rail freight traffic picture in 1968 as previous records were surpassed. Passenger traffic continued downward, but modest commutation increases in congested metropolitan areas served to moderate the overall decline.

As shown in Table 7, revenue ton-miles in 1968 rose to an estimated 743 billion, 3.3% more than the 1967 total and 0.6% higher than in the previous record year 1966. Revenue carloadings increased by 0.5%.

The trend toward the carriage of heavier loads in higher-capacity equipment over a somewhat longer average distance continued in 1968. Class I railroads are now producing an average of about 26,300 ton-miles for each car of revenue freight loaded, up from the 1967 figure of 25,600 and 44% higher than the 18,250 average of a decade ago. Although a steady year-to-year decline in LCL traffic (from more than 7.5% of total loadings in 1958 to less than 1% in 1968) has contributed to the increase in ton-miles per car loaded, the application of incentive rates and a shift to larger cars have been the principal factors.

Of the identifiable commodity groups, the important miscellaneous class, which accounts for 57% of all revenue carloadings, registered a 3.8% increase in 1968 over 1967. Among the other major groups, forest products and ore rose 5.3% and 0.3%, respectively, while grain and grain products declined by 8.1% and coal loadings were off by 5.9%. In the smaller commodity classes, coke loadings were up, while livestock and LCL movements declined. The indicated decline in loadings of grain and grain products reflects increasing movements in large-capacity covered hoppers.

A significant reporting development occurred in the first week of 1969 when the AAR's Car Service Division introduced a new format for its 50-year-old weekly carloading report. The



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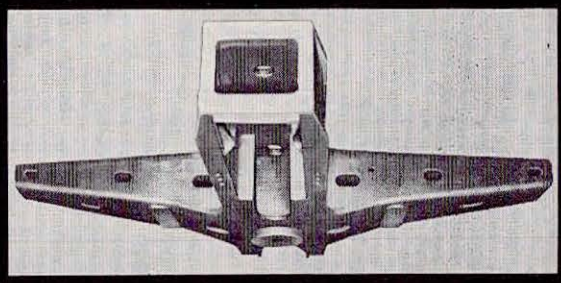
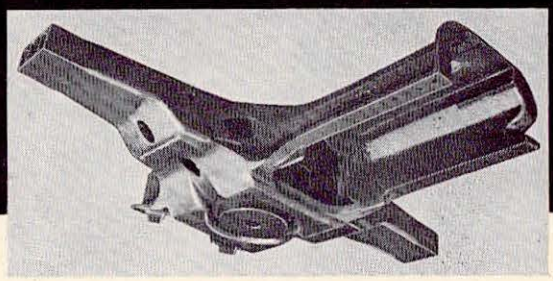


Rockwell End Casting — for standard draft gear pocket.

Rockwell End Casting — for sliding center sill.



■ Rockwell underframe end castings measure up to the increasingly rigid standards of leading railroads.

Carefully cast of selected steels to meet AAR specifications . . . designed with extra strength where it's most needed . . . precisely manufactured to strict specifications, Rockwell Underframe Ends can be built into new cars or easily installed on older ones. Repeated impacts and shock loads of coupling and high speed runs are effectively absorbed, eliminating failures and reducing maintenance costs.

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Circle 28 on coupon page 103

revised report, the result of many months of research and planning, provides a breakdown of loadings into 21 commodity groups as compared with only eight classes in the old form, and should greatly enhance the value of the report as an indicator of railroad freight traffic trends. The new grouping is based on the Standard Transportation Commodity Code which the industry adopted in 1964 as a more useful tool of market research and traffic analysis.

Piggyback traffic continued as a blue-ribbon performer in 1968 with loadings reaching a total of 1,337,149 cars in revenue freight service, 11% higher than in 1967 and nearly five times the total loaded ten years ago. The 1,337,149 cars carried 2,174,616 revenue trailers or containers, up 10% from the preceding year. The average number of trailers or containers per revenue load remained virtually unchanged at 1.63.

Including non-revenue handling of empties, the railroads moved a total of 3,168,553 trailers or containers in TOFC/COFC service in 1968, 12% more than in 1967. Another 244,600 units were handled in mail and express service, more than double the 1967 volume.

As the automobile industry recovered from 1967's mild slump, the railroads' handling of new motor vehicle shipments increased by 25% over the 4,344,000 transported in the previous year. Estimates indicate that the railroads handled about 5.4 million new automobiles and trucks in 1968, approximately one-half of total shipments by all modes of transportation. This marks the ninth consecutive year in which the railroads have increased their share of new motor vehicle traffic.

Passenger-traffic statistics in 1968 continued to reflect the downward trend in rail travel experienced in every year but one since the end of World War II. Although commutation ridership in 1968 was up about 1% over 1967, total passenger-miles dropped to about 13 billion, 14% less than in the previous year. Final 1968 data are expected to show intercity coach travel down about 20% to 7.4 billion and parlor and sleeping car passenger-miles off 25% to 1.2 billion.

Mechanical problems forced postponement of the planned inauguration of high-speed Northeast Corridor service, now scheduled to start on a limited basis in January 1969. The industry and the traveling public continue to view this medium-distance, maxi-speed concept with interest and expectation. Meanwhile, dwindling passenger train service revenues—passenger, mail and express—have required the carriers to pursue the discontinuance of poorly-patronized deficit trains.

Table 7: Freight and Passenger Traffic—1958-1968

Year	Revenue carloadings (thousands)	Piggyback carloadings (thousands)	Revenue ton-miles (millions)	Revenue passenger-miles (millions)
1958	30,222	278	551,667	23,269
1959	31,015	417	575,529	22,047
1960	30,441	554	572,309	21,258
1961	28,590	591	563,361	20,283
1962	28,722	706	592,862	19,902
1963	28,871	797	621,737	18,494
1964	29,027	891	658,639	18,245
1965	29,248	1,034	697,878	17,378
1966	29,623	1,163	738,395	17,084
1967	28,084	1,207	719,498	15,193
1968	28,231	1,337	e743,000	e13,000

e Estimated.

Table 8: Carloadings by Commodity Groups—1968 vs. 1967

	Carloadings in 1968 (thousands)	Percent of total	Increase over 1967	
			Carloadings (thousands)	Per cent
Miscellaneous	16,116	57.1	588	3.8
Coal	5,205	18.4	d327	d5.9
Grain and products	2,258	8.0	d200	d8.1
Forest products	2,128	7.6	107	5.3
Ore	1,845	6.5	5	.3
Coke	401	1.4	26	7.0
Livestock	74	.3	d13	d14.9
Total carloads	28,027	99.3	187	.7
Merchandise, LCL	205	.7	d39	d16.1
Total carloadings	28,231	100.0	147	.5
TOFC (piggyback included above)	1,337	4.7	130	10.8

d Decrease.

Rates and fares

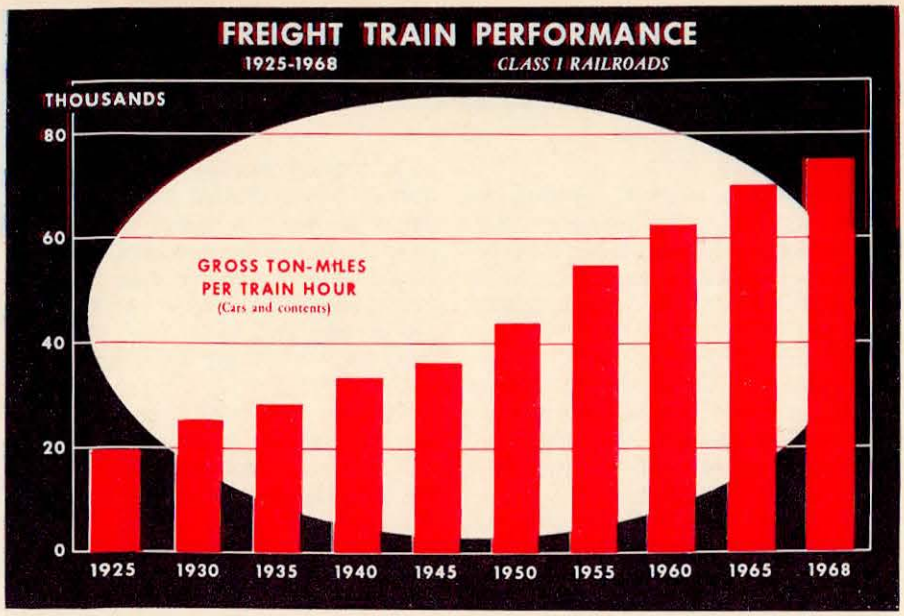
In 1968 as in the previous year railroads were engaged in proceedings before the Interstate Commerce Commission and various state regulatory bodies seeking authority to raise their rates to meet the impact of rapidly rising costs. Interim increases published in August 1967 were generally affirmed by the ICC in its final report and order in Ex Parte 256 (332 I.C.C. 280) announced on Feb. 15, 1968. On March 7 the railroads filed for ICC permission to publish a further schedule of freight rate increases, citing their low level of earnings, even with the Ex Parte 256 increases, and the continued escalation of operating costs.

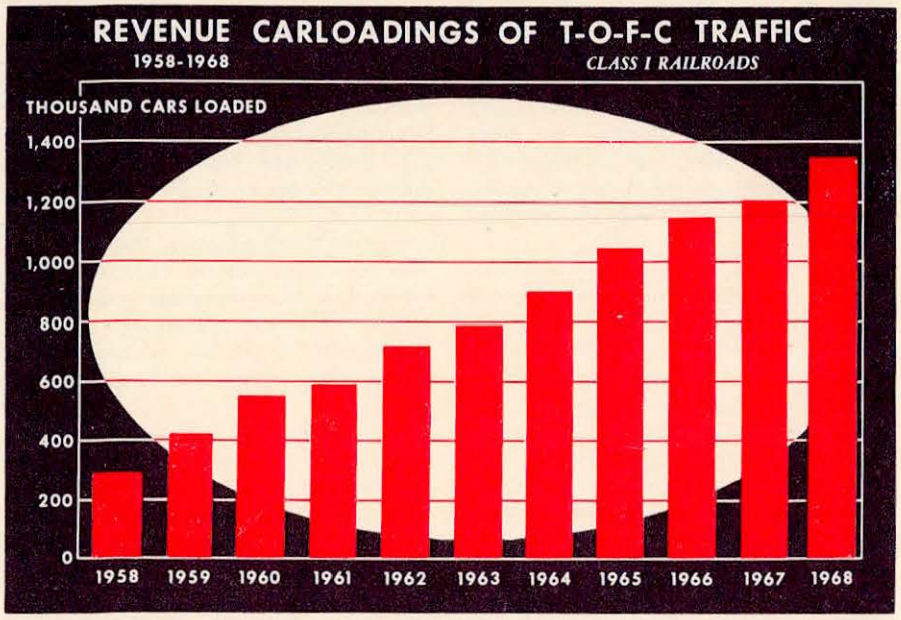
Ensuing proceedings in Ex Parte 259, *Increased Freight Rates, 1968*, continued through the year. A tariff of selected increases ranging from 3 to 10% was filed to become effective on May 27 but was postponed by the Commission until June 24 at the request of protestants. After filing of verified statements, pro and con, briefs, and oral argument a maximum increase of 3% was authorized on an interim basis, subject to further investigation. Supplemental evidence was filed and hearings were held between September 9 and October 8.

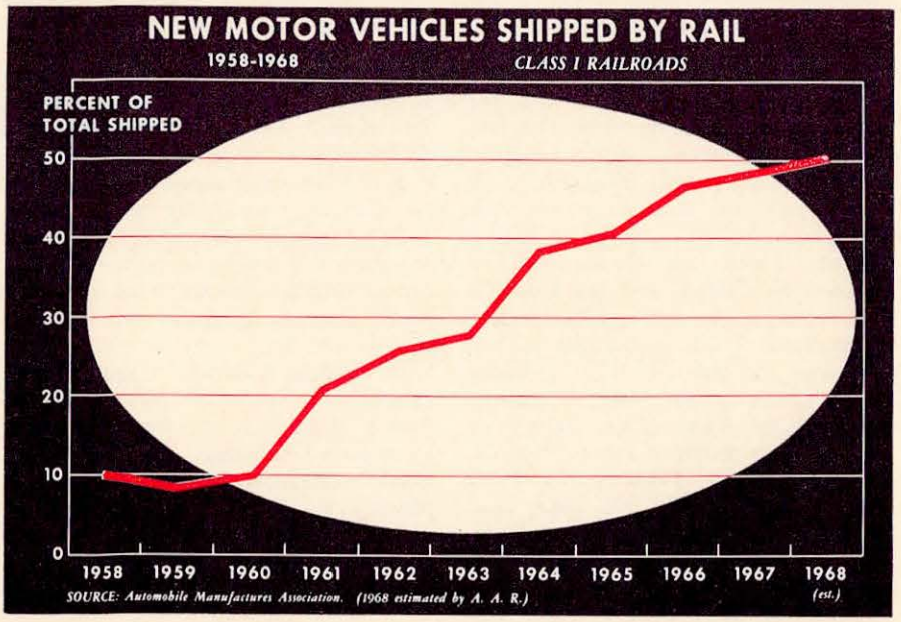
At the conclusion of hearings on the economic issues, the carriers on September 26 filed a special plea for immediate institution of the full proposed increases, subject to the refund provision of the tariff. The request was substantially granted by a Commission order of November 26 which allowed the tariff to become effective, with limited exceptions, on November 28.

The Commission's final report in Ex Parte 259 was expected early in 1969.

● **Competitive rates.** The U. S. Supreme Court in a June 17 decision in the "Ingot Molds" case declined to sustain a lower court ruling in support of a railroad position that out-of-pocket costs are the proper basis for measuring the legality of competitive rates, rather than some concept of so-called "fully-distributed costs." The Court held that the question of proper standards for determining "inherent advantage" is for Congress and the Commission to decide. It noted that the matter of cost-







ing principles is under review by the Commission in another proceeding (Docket 34013).

● **Piggyback.** Major changes in TOFC service have developed from the Commission's order in Ex Parte 230, *Substituted Service-Piggyback* (322 I.C.C. 301). All tariff rates have been made available to motor carriers as well as shippers, virtually removing the need for so-called Plan I contracts for the movement of motor carrier trailers in substituted service.

Full lines of rates have also been published for movement in either rail-owned or shipper-furnished trailers and the formerly widespread practice of trip-leasing has been discontinued. Availability of "Freight, All Kinds," rates has considerably expanded, and the relationship of rates subject to percentage mixture limitations with those applying on straight or mixed trailerloads without restriction is now under review by the Commission in Docket 34900, et al., *TOFC Rates and Charges*.

● **Incentive rates.** Railroads continue to provide incentive rates geared to heavier payload and annual volume rates designed to hold tonnages threatened by water and/or truck competition. A few examples illustrate such developments:

(1) Increases in minimum weights on canned goods from 36,000 pounds to 40,000 pounds and from 75,000 pounds to 80,000 pounds, in DF cars not exceeding 53 feet in length; also reduced rates at a 100,000-pound minimum;

(2) Reduced competitive rates at a 100,000-pound minimum on carbon blacks in covered hopper cars furnished by shippers, from the Southwest to tire manufacturing areas in the East and South;

(3) Reduced rates at a 150,000-pound minimum on anhydrous ammonia in tank cars, to encourage rail movement during the off-season for storage;

(4) Volume rates on vinyl chloride in "jumbo" tank cars of 38,000-gallons capacity, subject to annual movement of 35,000, 50,000 and 75,000 net tons from one origin to one destination.

(5) Volume rates on coal to destinations in Eastern territory, to help meet competition of other energy sources and of other modes of transportation; also similar adjustments on lake cargo and all-rail coal moving westbound.

● **Rent-A-Train.** Partial modification of tariffs covering the Illinois Central's unique "Rent-A-Train" service was recommended on November 27 by a hearing examiner of the ICC in Docket 34905. The examiner found the tariff defective in failing to fully describe certain phases of the service, or to define specifically certain terms, but concluded that the concept would

THE YEAR'S RECORD IN TOTAL LABOR COSTS CAME FROM

neither "violate any specific provision of the Interstate Commerce Act, nor contravene the national transportation policy."

A new storage terminal capable of accumulating the large tonnages required has been built at Gibson City, Ill., and others are planned. On its first move a train left Gibson City October 29 with 400,000 bushels of corn for export through Baton Rouge, La. Scheduled for continuous round-trip service, the train is expected to relieve car supply problems associated with seasonal traffic peaks.

● **Section 4.** On reconsideration of the record in Docket 34238, the full Commission on September 17 found that the long-and-short-haul provisions of Section 4 of the Interstate Commerce Act govern the rail, but not motor, part of joint rates and routes. On the basis of this finding the ICC voided provisions of an order, directed against both rail and motor participants in certain such joint rates, requiring them to rectify discrimination against water carriers, but left the order in effect as to railroads. Owing to court action instituted by affected railroads, the Commission has postponed indefinitely the effective date of its order in this proceeding.

● **Passenger fares.** A number of individual railroads increased their passenger fares in 1968 by varying percentages. Eastern railroads employing the diminishing scale authorizing reduced round-trip fares for six-months' limits beginning at 225 miles, concluded to cancel them and allow double the one-way fares to apply. Certain railroads serving the metropolitan areas of Boston, Chicago, New York and Philadelphia made nominal increases in their commuter fares.

● **Reduced fares for overseas visitors.** United States railroads established reduced round-trip fares, effective April 29, for visitors from overseas, providing a 25% reduction in current one-way fares. The railroads acted in support of the President's program to reduce the balance of payments deficit by encouraging overseas travelers to "Discover America."

Employment and compensation

Railroad employment averaged approximately 590,000 during 1968, about 20,000 or 3.3% below the 1967 average, and a new low for the 20th century. The number of railroad employees in 1968 was less than half the average 15 years earlier.

Total payroll in 1968, reflecting increases in rates of pay during the year, but not including accruals for wage demands not settled by year-end, rose to an estimated $5,130 million, nearly $200 million more than in 1967. Total payroll and supplements, including approximately $720 million in payroll taxes and health and welfare benefits, amounted to about $5,850 million, an increase of $244 million over 1967, and a new all-time high.

The record in total labor costs despite reduced employment resulted from substantially increased compensation per employee. Annual earnings per employee averaged about $8,695, an increase of $610 over 1967, and cost of wage supplements amounted to about $1,220 per employee, up $119 from the previous year. The average straight-time rate of pay was an estimated $3.45 and straight-time hourly earnings (straight-time pay per straight-time hour worked) averaged about $3.72, again excluding the effect of unsettled wage matters.

Wage supplements referred to above are (1) hospital, medical and surgical benefits for employees and their dependents and life insurance for employees and (2) payroll taxes for retirement, medicare, unemployment and sickness benefits. In 1968, these amounted to about $210 million and $510 million, respectively. Total labor cost per hour actually worked, including both straight time and overtime pay, vacation and holiday pay, the effect of mileage on pay in train and engine service, various arbitraries, and the wage supplements came to about $4.86 per hour actually worked, or 41% more than the straight-time hourly rate.

● **Wage increases in 1968.** Various of the 1967 agreements provided for further increases during 1968. The Jan. 13, 1967, agreement with four non-operating groups—the Brotherhood of Maintenance of Way Employes, the Transportation-Communication Employees' Union, the Brotherhood of Railroad Signalmen, and the Hotel & Restaurant Employees' and Bartenders' International Union—provided for an additional increase of 2.5% effective Jan. 1, 1968. The Nov. 29, 1967, agreement with the Railroad Yardmasters of America also provided for a 2.5% increase on Jan. 1, 1968; and a 4.3% increase effective Jan. 1, 1968, was provided for in an agreement with the American Train Dispatchers' Association.

In addition, the determination of the Special Board created by Public Law 90-54 in 1967 provided for railroad shopcraft employees a general wage increase of 5% effective July 1, 1968, and increases of 5 cents per hour for journeymen and mechanics' classifications on April 1 and again on Oct. 1, 1968.

On Dec. 28, 1967, agreement was reached with the Brotherhood of Railway, Airline & Steamship Clerks, Freight Handlers, Express & Station Employees providing for the "pattern" increase of 2.5% on Jan. 1, 1968, and further increases of 3.5% on July 1, 1968, 2% on Jan. 1, 1969, and 3% on July 1, 1969. A similar pattern of increases was adopted in agreements of May 17, 1968, with the Brotherhood of Maintenance of Way Employes and the Hotel & Restaurant Employees' & Bartenders' International Union, June 24 with the Transportation-Communication Employees' Union, July 17 with the Brotherhood of Railroad Trainmen, July 29 with the Switchmen's Union of North America, September 18 with the Brotherhood of Locomotive Firemen & Enginemen and on September 20 with the Yardmasters. These agreements included a moratorium on further wage increases through Dec. 11, 1969.

In addition to the percentage increases in wage rates, "classification and evaluation" funds were established with the Clerks, Transportation-Communication Employees, and Maintenance of Way Employes costing the carriers 5 cents per hour paid for, and with the Railroad Yardmasters of America costing $10 per month per employee effective July 1, 1968. Employees engaged in yard and short-run local freight service represented by the Brotherhood of Railroad Trainmen, Switchmen's Union of North America and Brotherhood of Locomotive Firemen & Enginemen received increases of 40 cents per basic day also effective July 1, 1968. All employees represented by these operating organizations received lump sum payments of up to $50 based on service during the first six months of 1968.

● **Pending notices.** At year-end the notices of the Order of Railway Conductors & Brakemen, the Brotherhood of Locomotive Engineers, and the Brotherhood of Railroad Signalmen were still pending. In all three disputes the mediatory efforts of the National Mediation Board failed to produce a settlement and arbitration was agreed to by the car-

SUBSTANTIALLY INCREASED COMPENSATION PER EMPLOYEE

riers, but declined by the unions. The services of the NMB were terminated in these disputes on December 5, 12 and 16, respectively.

Also pending at year-end were notices filed by the Shopcraft Organizations proposing changes in rates of pay effective Jan. 1, 1969, and other benefits.

● **Health and welfare.** Effective March 1, 1968, the nation's railroads entered into a broadened and single group policy health and welfare contract covering the employees of the various operating and non-operating unions. The monthly premium paid by the carriers is now $30.50 per employee.

● **Manning of trains.** Strikes of Trainmen occurred in 1968 over the matter of composition of train and yard crews, and the issue was pending on various railroads at year-end. Proposals were also pending for restoration of abolished positions of firemen on electric and diesel locomotives in freight and yard service.

Proposals of the Brotherhood of Railroad Trainmen for not less than two trainmen on all crews were progressed on individual railroads, which in turn proposed to reserve to management the right to determine such manning requirements. The disputes resulted in strikes by the BRT against the Missouri Pacific and Texas & Pacific on Feb. 5 to 9, 1968, The Seaboard Coast Line Feb. 6 to 9, 1968, the Belt Railway of Chicago beginning on July 29, 1968, and the Louisville & Nashville on Nov. 6, 1968.

No Emergency Board was appointed to investigate the MP-T&P and SCL disputes. A memorandum drafted by the parties at Jacksonville, Fla., February 9, terminated the strikes. It provided for immediate restoration of 50% of the one-conductor-and-one-trainman crews to a one-and-two basis to be followed by negotiations to determine the proper consist of the remaining 50% of the one-and-one crews.

No Emergency Board was appointed to investigate the Belt Railway strike, which continued into the 102d day. Then, when the BRT struck the L&N on Nov. 6, 1968—the day after Election Day—the President appointed Emergency Board No. 172 to study both of these disputes and also that on the Illinois Central where a strike was threatened. In its report issued Dec. 13, 1968, the Board recommended resumption of negotiations on a crew-by-crew basis under guidelines set forth in the Award of Arbitration Board No. 282.

● **Union unification.** In December four railroad operating unions announced approval by their memberships of merger effective Jan. 1, 1969. The plan joins the Brotherhood of Railroad Trainmen, the Brotherhood of Locomotive Firemen & Enginemen, the Order of Railway Conductors & Brakemen, and the Switchmen's Union of North

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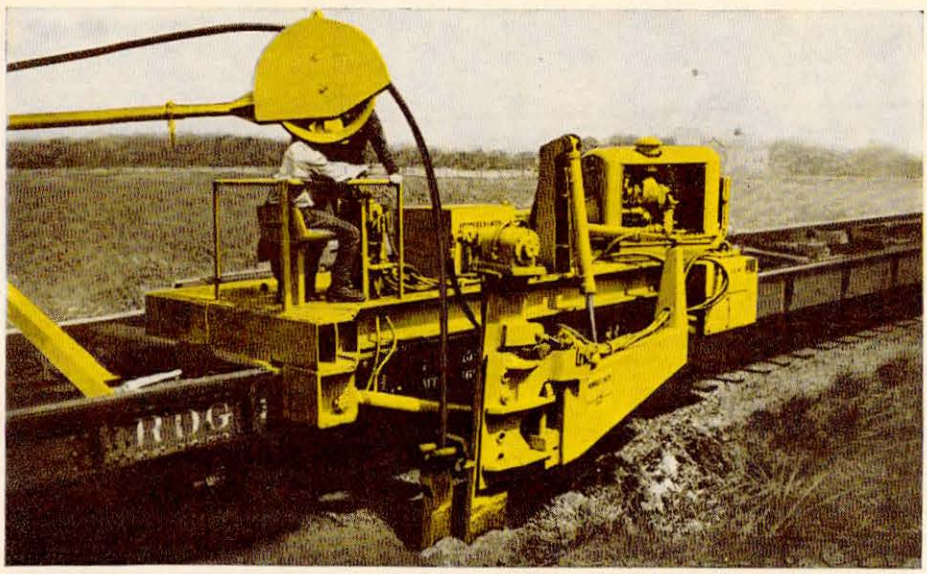

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America into a single organization, the United Transportation Union.

Wage rates and prices

The abrupt upturn in wage and price trends which exerted such severe pressures on rail earnings and forced the carriers to seek general freight rate increases in both 1967 and 1968 is revealed clearly in a chart of average wage rates and materials prices over the past decade.

Wage rates have increased in every year, but whereas in the period 1959-1964 they advanced at an annual rate of just over 2%, the rate of increase in the next four years rose to 5%. Materials prices were the same on the average in 1965 as in 1959, but they advanced by 8% over the next three years, and the rise continues.

Employment costs other than wage rates, including vacation allowances, holiday pay, hospital, medical and life insurance, retirement benefits, and unemployment and sickness insurance, have also increased, with the result that total employment costs in 1968 per hour actually worked—an estimated $4.86—were up by more than 50% from the corresponding $3.11 average ten years earlier.

According to preliminary estimates, the wage index for 1968, representing the average straight-time hourly rate of pay of all railroad employees, was 141.7. In other words, the 1968 rate was about 42% higher than the corresponding average rate in the base period 1957-1959. It was also up 4.5% from 1967, not including any wage increase for those employees whose 1968 demands, following expiration of a moratorium on June 30, had not yet been settled at year-end.

The chargeout index of material prices for the year 1968 is 109.3, composed of a fuel index of 99.3 and one of 113.0 for other materials. Each is up about 3% over the corresponding 1967 index.

The chargeout index represents the original cost of materials consumed during the year and reflects the time-lag between purchase and use. On a spot price basis, the latest price index is 110.8 for Oct. 1, 1968. Among the principal commodity groups, the forest products price index of 126.4 showed the greatest increase over base period prices and also showed the greatest increase during the past 12 months—6.4%. Indices for the other groups were in a range of 99.7 to 115.8—up 2.3% to 2.5% for the 12 months.

● **Revenue averages.** During the period 1958 to 1967, while the Consumer Price Index of the Bureau of Labor statistics, U.S. Department of Labor, increased by more than 15%, the Freight Rate Index of the Interstate Commerce Commission declined by 13%. In 1968 the Consumer Price Index rose by more than 4% over the 1967 average, while railroad revenue per ton-mile, the only indicator of the average 1968 rate level now available, increased by 3%.

At year-end, with the X-259 freight rate increases in effect, the railroad rate level was still nearly 8% below that of ten years ago, while the Consumer Price Index was up 23% over the same period.

Table 9: Employees and Their Compensation—1958-1968

Year	Average number of employees	Total payroll (thousands)	Average annual earnings per employee	Average straight-time: Hourly rate	Average straight-time: Hourly earnings
1958	840,575	$4,929,906	$5,865	$2.46	$2.61
1959	815,474	4,986,253	6,115	2.56	2.72
1960	780,494	4,893,558	6,270	2.62	2.80
1961	717,543	4,623,982	6,444	2.69	2.87
1962	700,146	4,662,065	6,659	2.75	2.95
1963	680,039	4,629,566	6,808	2.78	2.99
1964	665,034	4,697,884	7,064	2.85	3.06
1965	639,961	4,793,066	7,490	3.00	3.22
1966	630,895	4,879,273	7,734	3.10	3.33
1967	610,191	4,933,663	8,085	3.30	3.56
1968 (est.)	590,000	5,130,000	8,695	3.45	3.72

Table 10: Index of Wage Rates and Material Prices—1958-1968

(Average 1957-1959 = 100)

Year	Wage Index	Price Index: Fuel	Price Index: Other material	Price Index: Total material	Index of wage rates and prices
1958	101.1	96.6	99.9	99.0	100.6
1959	105.1	98.8	102.0	101.2	104.1
1960	107.8	94.4	103.6	101.2	106.1
1961	110.4	96.3	103.7	101.7	108.2
1962	112.9	95.5	103.1	101.0	110.2
1963	114.1	95.0	102.8	100.7	111.1
1964	117.0	89.5	103.7	100.0	113.1
1965	123.2	91.7	104.5	101.1	118.2
1966	127.3	93.2	106.3	102.8	121.7
1967	135.6	95.9	110.1	106.4	129.0
1968 (prel.)	141.7	99.3	113.0	109.3	134.3

Table 11: Prices, Freight Rates and Revenue Averages 1958-1968

Year	Consumer price index (1957-59 = 100)	ICC freight rate index (1950 = 100)	Revenue per ton-mile (cents)	Revenue per passenger-mile (cents)
1958	100.7	121	1.463	2.900
1959	101.5	118	1.445	2.951
1960	103.1	116	1.403	3.011
1961	104.2	114	1.374	3.079
1962	105.4	112	1.348	3.110
1963	106.7	109	1.310	3.179
1964	108.1	107	1.284	3.168
1965	109.9	105	1.266	3.182
1966	113.1	104	1.257	3.182
1967	116.3	105p	1.269	3.195
1968	121.2e	108e	1.310e	3.400e

p—Preliminary. e—Estimated.

Equipment trends

The railroad equipment modernization program continued in 1968 with the addition of some 70,000 new and rebuilt freight cars and about 900 of today's more-powerful locomotive units. Although ownership figures for both freight cars and locomotives show slight declines in 1968, national car fleet capacity and aggregate pulling power of the locomotive fleet both increased.

As shown in Table 12, there were approximately 1,814,000 freight cars in service at year-end—less than 1% fewer than the final 1967 count. In addition

to Class I line-haul railroads, the freight car figures includes Class II roads, switching and terminal companies, and the so-called "private" car companies. The private fleet, which now accounts for more than 17% of the total, includes the railroad-controlled companies such as Trailer Train, Pacific Fruit Express, Fruit Growers Express and others, representing a pooling of railroad equipment.

Analysis of freight car trends by type of car shows that the number of covered hoppers rose by about 5,000 in 1968, reflecting continuing growth in demand for this high-capacity car for moving grain and other bulk commodities. The number of equipped box, flat and tank cars also increased, while ownership of plain box, gondolas, open-top hoppers and refrigerator cars declined.

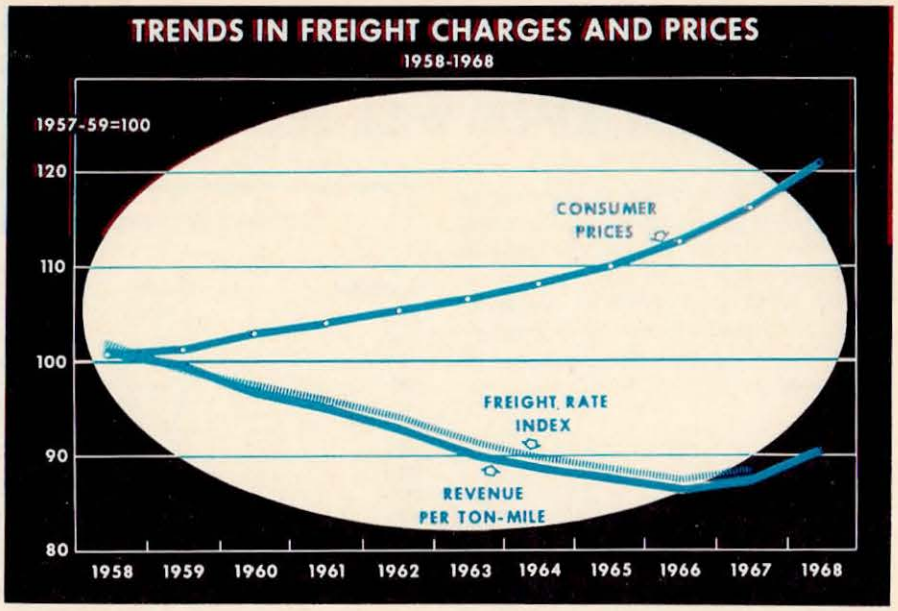
Average freight-car capacity increased to about 64.2 tons in 1968, 8/10 of a ton higher than the 1967 year-end figure and nine tons above the average just ten years ago. The average capacity of cars installed in 1968 was 81 tons, while the average for cars retired was 57 tons. Aggregate capacity of the freight car fleet approximated 116 million tons as of Dec. 31, 1968, up slightly for the year.

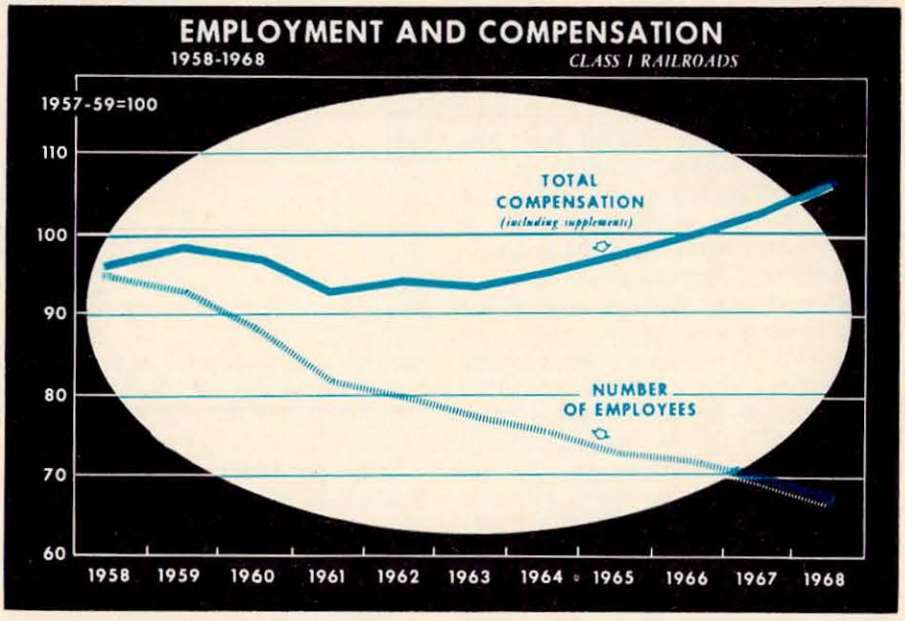
Passenger-train equipment data in Table 12 reflect an ownership decline that parallels the shrinkage in passenger, mail and express traffic. About 50 new passenger-train cars added in 1968 were for suburban service, as were most of the cars on order at year-end.

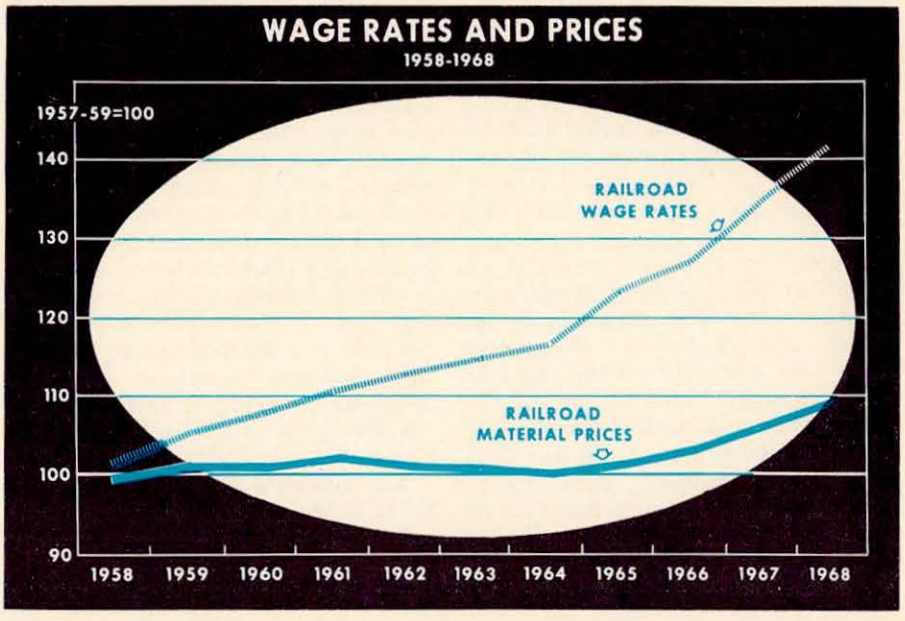
The 1968 addition of 70,000 new and rebuilt units brings freight car installations for the past ten years to a total of 676,000. About 9,000 new and rebuilt diesel-electric locomotives have been installed over the same span of years, with units of 3,000 or more horsepower predominating among the additions made in the last three years.

New and rebuilt freight cars on order at the end of 1968 are expected to approximate the 34,000 on builders' order books on Dec. 31, 1967. Such a backlog would represent substantial improvement over that of other recent months and suggests a possible increase in freight car building in 1969. An upswing in acquisitions of new locomotives is expected, after a relatively low year in 1968.

● **Pullman Company.** An announcement near year-end stated that sleeping-car operations of the Pullman Company would be taken over by the individual railroads beginning January 1969. Since 1947, railroads have leased their sleeping cars to Pullman for operation and maintenance. After January 1 Pullman







RAILROADS WILL SEEK GREATER FREEDOM TO DIVERSIFY

will confine its activities to maintaining the cars and providing linens. Railroads continuing sleeper service will provide personnel and account for revenues.

The 100th anniversary of the founding of Pullman's Palace Car Company to build and operate sleeping cars was celebrated on Feb. 22, 1967.

Legislation

Little progress was made on the railroads' affirmative legislative program in 1968. Railroads were encouraged, however, by the refusal of Congress to act on bills inimical to them and by helpful features of certain enacted legislation.

Among other objectives in 1969, railroads will seek statutory changes allowing transportation companies greater leeway in diversifying their transport operations, granting greater managerial discretion in pricing of railroad services, providing systems of compensatory user charges on publicly-financed ways, requiring binding determination of labor disputes, and gaining greater recognition of the public responsibility in financing grade crossing separations. The legislative program also seeks authorization to amortize investments in grading and tunnels, to write off expenses of mergers and reorganizations and to relieve railroads of the unfair burden of discriminatory taxes at the state and local level.

Highlights of legislative activity in the second session of the 90th Congress include the following:

● **Railroad Retirement and Unemployment Insurance.** Public Law 90-257, incorporating amendments formulated jointly by railroads and their organized employees, provided for increased benefits under both retirement and unemployment-sickness programs.

Principal effect of amendments to the Retirement Act was to raise annuities for those whose benefits were not increased by Social Security amendments enacted late in 1967. Increases in annuities, effective Feb. 1, 1968, were about 10% greater than those provided for comparable earnings under the Social Security schedule. A new maximum of $104.50 per month was fixed for spouses' annuities (increasing to $112.20 in January 1969 and to $115.50 in January 1970) and annuities were made available for the first time to disabled widows aged 50 to 59.

Table 12: Inventory of Equipment—1958-1968

December 31	Freight cars[a]	Passenger cars (incl. Pullman)	Head-end passenger-train cars	Diesel locomotive units	Other locomotive units
1958	2,032,676	18,577	13,767	27,715	1,872
1959	1,982,110	17,459	13,208	28,238	1,288
1960	1,968,771	16,181	12,818	28,369	774
1961	1,907,723	15,004	12,345	28,240	614
1962	1,852,992	14,240	11,788	28,170	505
1963	1,817,026	13,732	11,369	27,969	478
1964	1,802,582	12,507	11,154	27,879	433
1965	1,803,227 •	11,371	10,502	27,433	399
1966	1,834,963	10,665	9,932	27,516	378
1967	1,827,376	9,845	9,147	27,317	353
1968 (est.)	1,814,000	8,500	7,900	27,050	350

[a] All cars, railroad and private.

Table 13: New Equipment Installed—1958-1968

Year	Freight cars	Passenger-train cars	Diesel-electric locomotives	Other locomotives
1958	46,835	148	430	4
1959	46,023	74	835	7
1960	58,322	239	440	13
1961	34,241	204	242	32
1962	39,822	285	754	28
1963	48,255	143	806	13
1964	83,266	408	1,116	—
1965	89,653	577	1,440	—
1966	106,058	103	1,394	—
1967	100,185	138	1,067	—
1968 (est.)	70,000	50	900	—

Note: Units of equipment rebuilt are counted as new. Freight car installations include cars of all railroads and private car lines.

Other provisions liberalized the restriction on outside earnings of annuitants, raised the credit for military service after 1967, and liberalized certain qualifying conditions for spouses and children.

Amendments to the Railroad Unemployment Insurance Act effective July 1, 1968, (1) increased the maximum daily rate of benefits from $10.20 to $12.70, (2) provided extended sickness benefits to employees other than those entitled to age annuities at age 65, while transferring funds representing certain disability annuities from the Railroad Retirement Account to the Unemployment and Sickness Account, (3) increased the qualifying base-year earnings amount from $750 to $1,000, (4) provided a disqualification for a prescribed period of time for employees receiving separation allowances, and (5) removed from the law the special provisions for maternity benefits.

The amendments provided no additional financing. However, increases in payroll tax rates and in the taxable base (described herein under "Financial Results") will produce additional revenues to cover most of the increased costs to the *Retirement* account. The existing scale of taxes for *Unemployment* is considered adequate to cover the cost of increased benefits and to liquidate an existing deficit in that account in about five years.

● **Grain Standards Act.** Public Law 90-487, made effective August 15, amended the U.S. Grain Standards Act so as to permit voluntary rather than mandatory inspection of grain moving in transit and allow use of mechanical devices for such inspections. Since it eliminates the requirement that grain cars be held at various points for cargo inspection, the new law is expected to overcome to a large extent the inefficiencies in grain transportation that have contributed to car supply problems at harvest time.

● **Agricultural cooperatives.** Public Law 90-433 established new rules governing the for-hire transportation of non-farm traffic by farmer-owned cooperatives exempt from ICC regulation. Co-ops hauling such traffic are now required to notify the ICC and open their records for inspection. Under Section 203(b) (5) of the Interstate Com-

merce Act, as amended, for-hire transportation by agricultural cooperatives for non-members is exempt only when the commodities transported consist of farm products, farm supplies, or other farm-related traffic, thereby protecting common carriers from abuses of the agricultural exemption. The Interstate Commerce Commission is to promulgate the new rules.

● **High-speed ground transportation.** Public Law 90-423 provides for a two-year extension of the high-speed ground transportation research program of the Department of Transportation and authorizes appropriation of an additional $16.2 million for the program in fiscal year 1969 and $21.2 million in fiscal year 1970. The demonstration projects include high-speed rail service in the Northeast Corridor between Washington and Boston, a proposed auto-on-train operation, development of tracked air-cushion vehicles, and other high-speed surface transport innovations.

● **Appropriations for other modes.** The Congress continues to provide large sums for the benefit of other modes, without enacting the more adequate user charges recommended by the Administration.

Public Law 90-479 appropriated $1,214,772,500 for the civil works program of the Corps of Engineers during fiscal year 1969, which was 7% less than comparable appropriations for fiscal year 1968. The bill included $847,400,000 for construction, $30,000,000 for general investigations, and $18,400,000 for preconstruction planning.

The Rivers and Harbors Flood Control Act of 1968 (P.L. 90-483) authorized the following navigation projects:

(1) Red River Waterway, Louisiana, Texas, Arkansas and Oklahoma, at an estimated cost of $523,000,000 of which $293,000,000 is for navigation and $230,000,000 is for bank stabilization.

(2) Gulf Intracoastal Waterway, St. Marks to Tampa Bay, Florida, at a cost of approximately $98,000,000, subject to approval of the plan of improvement by the Secretary of the Army and the President.

(3) Yazoo River Navigation Project at a cost of $52,000,000.

The Act also directed the Secretary of the Army to make a study to determine the advisability of a waterway connecting the Savannah and Tennessee Rivers and a waterway connecting Lake Superior and the Mississippi River.

As a part of the Federal-Aid Highway Act of 1968, Public Law 90-495 adds 1,500 miles to the 41,000-mile Interstate Highway System, extends its completion date by two years to 1974, and authorizes $21 billion for highway construction over a five-year period.

In his Budget Message, President Johnson again urged:

". . . a number of new and increased user charges for programs in which the services provided by the Federal Government yield direct benefits to specific individuals and businesses. These charges—notably in the field of transportation—will, and should, shift the burden of financing from the general taxpayer to those who benefit directly, and make the provision of these services dependent upon the willingness of the user to pay for them."

He made suggestions such as raising the tax on highway diesel fuel, increasing the use tax on heavy vehicles according to a scale graduated by weight, and imposing a new 2-cents-per-gallon (increasing to 10 cents per gallon over the next five years) tax on fuel used by vessels navigating the inland waterways. Also recommended were additional user charges for both commercial and general aviation, following completion of studies by the Department of Transportation.

After completion of the studies, the Department recommended: A new 8% tax on air cargo; an increase in the domestic passenger ticket tax from 5 to 8%; an increase in gasoline tax from 4 cents to 7 cents per gallon for general aviation in fiscal 1969 (increasing to 10 cents per gallon by fiscal 1972); abolition of the 4-cents-per-gallon gasoline tax applicable to air carriers; a new tax on jet fuels used by general aviation beginning at 7 cents per gallon in fiscal 1969 and increasing to 10 cents per gallon by fiscal 1972.

No action was taken by the Congress on any of these proposals. However, a bill to increase the maximum allowable weight and width of vehicles on the Interstate System also failed to pass.

● **Other proposals not enacted.** Certain proposals favored by the railroads as well as many they did not support died with adjournment of the Congress. The former category included bills which would prohibit discriminatory tax assessments, eliminate certain archaic valuation requirements, allow amortization of reorganization expenses, and make tax loss carryovers of small railroads available to merger partners. Those not supported included various proposals to amend procedures governing discontinuance of passenger trains, to authorize the Secretary of Transportation to establish standards and regulations for railroad equipment, trackage, facilities and operations, to amend the Hours of Service Act, and another which would authorize the ICC to require establishment of through routes and joint rates between motor carriers and between motor carriers and rail or water carriers.

On a proposal to permit barge operators to mingle regulated commodities and unregulated dry bulk commodities in a single tow, the railroads took a position of not opposing, provided a similar exemption from regulation is granted to them.

Administrative proceedings

In addition to the rate and fare proceedings reviewed elsewhere herein, there were many noteworthy developments during 1968 involving Federal administrative agencies and the courts.

● **Railroad unifications.** It was an active year for railroad mergers. On February 1 the Pennsylvania and New York Central railroads were joined to form the new 19,200-mile Penn Central, culminating a six-year effort. The merger was one of the largest in U.S. history and one of the longest and most litigated of all railroad merger cases. Under terms prescribed by the Commission, the new company acquired the New York, New Haven & Hartford on Jan. 1, 1969.

An even larger merger in terms of mileage and longer in litigation—that of the Great Northern, Northern Pacific, Burlington, and associated smaller roads—was near consummation May 10 following final ICC approval when it was blocked by last-minute court proceedings brought by the Department of Justice. An appeal to the Supreme Court was pending at year-end.

Unifications accomplished in 1968 included control of the Western Maryland by the Chesapeake & Ohio-Baltimore & Ohio system effective March 29; acquisition by the Norfolk & Western of the Erie Lackawanna on April 1 and the Delaware & Hudson on July 1, through a subsidiary (Dereco), in line with ICC-prescribed conditions in N&W's previously-effected merger

with Nickel Plate; merger of the Chicago Great Western into Chicago & North Western effective July 1; and joint control of the Alton & Southern, a Class I switching road formerly controlled by the Aluminum Company of America, by the C&NW and Missouri Pacific, effective August 1.

Purchase of the Evansville line of the Chicago & Eastern Illinois by the Louisville & Nashville was approved by the ICC on October 23. Merger of the New Orleans & Northeastern into the Alabama Great Southern, both Southern Railway System lines, was approved on December 9.

ICC examiners recommended approval of proposals to merge the Piedmont & Northern into the Seaboard Coast Line and to join the C&NW and CMStP&P to form the Chicago, Milwaukee & Northwestern Transportation Company.

Hearings were concluded on the proposed merger of C&O, N&W and others, and on competing proposals of C&NW and Union Pacific to acquire the Rock Island. Hearings were begun on the consolidation of Illinois Central and Gulf, Mobile & Ohio.

Other matters pending included a 1968 application by L&N to acquire the Monon, and the deferred acquisition of Boston & Maine by N&W under terms of the Nickel Plate merger previously mentioned. A bid by Missouri Pacific and Mississippi River Fuel Corporation to control Santa Fe was withdrawn.

● **Passenger service.** Statements and arguments as to whether or to what extent the Interstate Commerce Commission has jurisdiction and authority over service standards on interstate passenger trains were considered by the Commission in Docket 34733. Its decision was awaited at year-end.

The Commission also, in response to Congressional requests, undertook a study of the avoidable costs of railroad passenger train service. An ad hoc committee of railroad cost accountants is cooperating in the study, scheduled for completion in 1969.

Earlier, the ICC's chairman had proposed to the Congress that a study be made by the Commission or by the Department of Transportation of the need for and means of preserving intercity railroad passenger service with a view to development of a public policy regarding its continuance.

● **Rules governing cost evidence.** Oral argument was held before the ICC in Docket 34013 on June 5, limited to certain specified isues. On July 19, after the Supreme Court's decision in the "Ingot Molds" case (see "Rates and Fares") the railroads petitioned the Commission for further hearing, limited to the questions of how inherent advantages should be recognized and preserved in conformity with the National Transportation Policy and consistent with specific requirements of Section 15a(3) of the Act; or, in the alternative, issuance of an order assigning the same questions as the subject of a new rule-making proceeding.

The Department of Transportation and American Waterways Operators, Inc. filed petitions for leave to intervene and for a reopening of the proceeding.

● **Freight car hire.** On January 30 the ICC served its order in the freight car per diem cases, setting forth its findings as to reasonable rates for settlement of certain inter-railroad disputes applicable to past periods (Docket 31358) and prescribing a combined time-mileage system of car hire for future application on railroad-owned cars (Docket 33145). The Commission's order has been attacked in District Courts in Boston and Omaha and its effective date has been postponed indefinitely.

New per-diem study

In Ex Parte 252, Sub. 1, the ICC has undertaken a new study to determine whether to impose incentive per diem rental charges under its expanded authority over such rates. It had been unable to determine from a 1967 study whether conditions met statutory standards as to adequacy of car supply.

In December 1968 a special Per Diem Task Force of railroad officers completed a comprehensive study of freight car ownership costs for per diem rate purposes and submitted its report. The study was looked to as a means of resolving disputes between railroads over principles to be applied in per diem cost studies.

Mileage allowances and rules relating to the use of privately-owned freight cars were before the Commission in 1968 in Investigation and Suspension Dockets 8406 (tank cars) and 8407 (other types). Hearings were completed, and briefs were to be filed early in 1969.

● **Car service.** On January 23, an ICC examiner in Ex Parte 241, *Investigation of Adequacy of Railroad Freight Car Ownership, Car Utilization, Distribution, Rules and Practices*, recommended that the proceedings be discontinued after concluding that "the record does not contain competent evidence upon which to base a conclusion as to the adequacy of freight car ownership."

A petition was filed by the railroads in I. & S. Docket 8363, Sub-No. 1, *Special Unloading Charge at Destinations in the United States*, requesting that the full Commission reconsider a decision disapproving the carriers' proposal to impose a $25 penalty on shippers or consignees who do not cleanly unload freight cars. In an order issued September 27, the Commission agreed to review the matter as one of "general transportation importance" and postponed indefinitely the effective date of an order which would have required the railroads to cancel the penalty provision by October 7.

In Docket 34731, Sub. 2, the Commission decided that it has no power to award compensation to a carrier required to move empty cars to another railroad under ICC car distribution directives.

In I. & S. Docket 8419 the Commission undertook to examine proposed changes in rules governing the demurrage average agreement which would require two credits to offset one debit, thus encouraging prompt loading and unloading of freight cars by shippers and receivers. Verified statements of respondents and protestants were filed and hearings are scheduled to begin this month.

● **Division of revenues.** The Supreme Court on Nov. 12, 1968, ordered the Interstate Commerce Commission to reconsider the division of freight revenues between northern and southern railroads under its March 1965 decision in Docket 29885. The Court directed the Commission to make more specific findings as to comparative costs in handling traffic between the regions.

According to the court decision, about $8 million a year was shifted from southern to northern lines under the revised divisions as prescribed by the Commission.

● **Waterway policy and projects.** In a major step toward more rational policy in examining the economic justification for proposed waterway projects, the Bureau of the Budget announced in December 1968 that cost calculations will employ an interest rate "related to the average estimated current cost to the Treasury of long-term borrowing." The new rate, under a formula developed by the Water Resources Council and approved by the President, will be based on the average yield during the preceding fiscal year on securities of the United States having 15 years or more to maturity.

The formula results in a rate of 4⅝% for the current fiscal year. An-

nual changes are to be no more than ¼%. The former rate was 3¼%.

In addition to the projects on which the Congress acted, as reviewed herein under "Legislation," the Corps of Engineers took the following actions in 1968:

(1) Submited a restudy of the *Trinity River (Texas) Navigation Project*, estimated to cost $752,200,000.

(2) Had under review a recommendation from the St. Louis District Engineer for replacement of *Lock and Dam No. 26* on the Mississippi River near Alton, Illinois, at a cost of $203,000,00. Existing locks 110 feet by 360 feet and 100 feet by 600 feet would be replaced by dual locks 110 feet by 1,200 feet.

(3) Studied a recommendation from the Seattle District to provide navigation on the *Upper Columbia River* between Pasco and Wenatchee, Washington, at a cost of $106,000,000.

(4) Held hearings on the *St. Lawrence Seaway* to consider the feasibility of (a) enlarging or duplicating the locks and (b) extending the navigation season.

(5) Held hearings to consider a *Cross-Wabash Valley Waterway*.

The lower 50 miles of the Arkansas River were opened to navigation in October 1968. The project is scheduled to be operable to Fort Smith, Ark., in 1969 and to Tulsa, Okla., in 1970.

No action was taken on the Upper Missouri River Navigation Project since the Secretary of the Army returned the report to the Office, Chief of Engineers, for further study.

● **State excess crew laws.** The Supreme Court in a decision November 18, 1968, upheld the constitutionality of the excess crew laws of the State of Arkansas, which require that railroads operating in that state use six-man crews under most circumstances. The Court held that the passage of such laws by the State of Arkansas did not violate the commerce clause of the U.S. Constitution or the due process clause of its 14th Amendment.

In other court actions: (1) the State of New York Court of Appeals on October 10, 1968, by a 4 to 3 vote affirmed a lower court's decision that the New York "full crew law" requiring a "fireman or helper" on diesel locomotives is neither an unconstitutional burden on interstate commerce nor a violation of the due process clauses of the U.S. and N.Y. Constitutions, and (2) the Court of Appeals of Franklin County, Ohio, on Nov. 19, 1968, upheld a similar requirement of the Ohio Crew Law. ■

Frank Malone

WATCHING WASHINGTON

TRUCK MERGERS ROLL ON—In 1969 the fast pace of truck mergers will continue, Interstate Commerce Commission sources predict. A spokesman for American Trucking Associations, Inc. agrees the merger pace will accelerate.

TRANSCONTINENTALS STRETCH—Already there are nine transcontinental Trucklines, ATA says. Most of these were created since 1960. Two came later. Last month, ICC approved merger of T.I.M.E. Freight and D. C. International. With 1968 combined gross of about $145 million, they'll form the second-biggest truckline. Included is Los Angeles-Seattle Motor Express. The companies say they'll look for more routes. None of the pending merger applications means a new transcontinental, ATA says. However, all but one of the cross-continent carriers are in some stage of a stretch, according to ICC records. The biggest, Consolidated Freightways (1960) awaits consummation of its ICC-approved merger with Southern Plaza Express. Four others have merger proceedings under way: Navajo Freight Lines (1964), P.I.E. (1966), IML Freight (1967), and Yellow Transit (1968). Another, Transcon Lines (1966), wants to extend through pooling. The ninth is United Buckingham (1968).

WHY SO FAST?—Compared with rails, trucks merge without effort. The dates for T.I.M.E.-D. C. International are: Nov. 28, 1967, merger application; Nov. 5, 1968, ICC examiner's recommendation; Dec. 24, 1968, full ICC blessing. The seven others sprang up in the time it took to get one half-continent rail merger on its feet. Four reasons are given. First, trucklines are simple things to join physically, while rails are complex plants. Second, there is a competition difference. In forming new trucklines (transcontinental or not), the problem of intra-territory competition-breaking that slows rail proceedings is usually absent. Truck mergers mainly are end-to-end rather than side-by-side. Third, truck decisions may depend on a few men, rather than on a corporate structure. In many cases, the okay comes easily from the company founder, now president, when he reaches retirement and seeks proper disposal of his line.

NO OPPOSITION—An ICC official adds: "While the number of truck merger applications remains static (about 325 annually), more are coming in from the big companies, and, for some reason, they're going through unopposed." When the regional rail-merger squabbles are settled, he says, continental railroads will come with truck-merger speed.

1968 REVIEW

Signaling & Communications

RAILROAD COMMUNICATIONS INSTALLED IN 1968

Railroad	Radio			Intercommunications			Carrier Equipment Terminals and Repeaters			Telephone			
	Mobile	Base	Walkie-Talkies	No. of Systems	Loud-speakers	Tele-phones	Voice	Speech plus Tele-graph	Telegraph or data	Ex-changes	Stations Available	Tele-type-writers	Micro-wave Stations
A&StAB	..	..	4	..	..	..	..	..	..	..	..	..	..
A&WP	1	..	4	..	..	..	..	..	..	..	..	..	..
Georgia	4	1	5	..	..	..	..	..	..	..	..	..	..
WRyA	1	..	4	..	..	..	..	..	..	..	..	..	..
BAR	..	..	4	..	..	..	..	..	..	..	..	..	..
BRC	8	..	..	..	..	..	..	..	..	..	..	..	..
B&LE	10	2	6	11	..	2	2	..	..	..	..	..	..
B&M	6	..	10	..	12	..	54	10	..	..	..	..	..
Burlington	81	25	18	..	..	..	..	..	20	..	..	27	16
C&S	12	..	..	2	17	10	..	2	..	..	..	6	..
FW&D	13	5	..	1	2	..	12	2	..	..	..	21	..
CN	133	41	185	2	43	..	676	..	1,704	8	1,400	1,871	14
CP Rail	79	5	64	7	36	17	569	2,205	..	2	161	..	7
C&O/B&O	293	7	66	6	58	..	34	..	..	2	125	80	..
C&NW	33	7	11	1	6	5	80	2	..	23	3,930	133	..
Chicago TA	..	..	3	..	..	..	..	..	..	..	..	..	..
Cleveland TS	1,055	1	..	..	..	..	..	..	..	..	..	..	..
Clinchfield	5	..	20	..	..	..	..	..	..	..	..	..	..
D&H	52	3	78	..	..	..	..	..	..	..	..	25	..
D&RGW	9	16	6	..	..	..	32	..	8	..	..	..	..
DT&L	10	..	18	1	..	4	..	..	..	..	..	2	..
DM&LR	..	..	..	..	..	..	6	..	..	..	..	2	..
EJ&E	10	..	34	..	..	..	..	..	..	..	..	1	..
EL	10	4	27	1	5	7	..	..	..	4	..	3	4
Frisco	45	2	10	..	..	..	..	..	..	..	..	40	..
GN	63	9	65	6	119	6	27	..	..	1	100	48	..
GB&W	3	..	..	..	..	..	..	..	..	..	..	..	..
GM&O	13	7	16	..	..	..	16	..	6	4	90	..	3
IC	62	16	278	4	39	3	37	..	..	2	300	..	10
KCT	24	..	2	..	..	..	..	..	..	..	..	..	..
LV	..	..	3	..	..	..	..	..	..	..	..	2	..
L&N	217	37	296	3	34	..	56	..	6	3	118	..	..
MEC	3	..	..	..	..	..	..	..	..	..	..	..	..
MTA-LI	26	4	68	..	..	..	..	..	..	..	..	..	..
NYCTA	460	57	575	..	..	..	374	..	..	..	..	44	..
Milwaukee	31	4	4	..	..	..	..	8	..	1	15	7	..
MKT	21	..	..	..	..	..	..	2	..	..	..	..	..
MP-TEP	11	8	29	1	2	..	33	6	6	1	100	..	..
Monon	1	..	12	..	..	..	1	..	..	..	..	..	..
N&W	25	8	24	1	9	..	24	2	4	1	40	17	..
NP	84	2	74	..	..	..	384	..	126	..	..	7	..
ONL	42	9	37	..	..	..	102	..	24	..	..	14	..
PGE	1	..	5	..	..	..	10	..	5	..	..	6	..
PC	150	47	220	11	230	..	14	..	..	4	240	10	..
IHB	12	4	..	..	..	..	..	..	..	..	..	..	..
PRSL	73	14	38	..	..	..	..	..	..	..	..	1	..
Reading	7	..	..	2	6	36	..	..	..	1	..	..	..
RF&P	3	..	..	..	..	..	..	..	..	..	..	..	..
Rock Island	26	4	..	..	..	..	43	..	..	3	160	8	..
SCL	130	3	125	..	..	..	24	..	4	4	160	7	..
Soo Line	32	2	14	..	..	..	4	..	..	1	23	..	..
Southern	28	9	42	14	15	42	56	..	..	2	70	..	..
SP	167	2	35	2	101	..	33	44	196	..	..	110	30
SP&S	6	..	2	..	..	..	6	..	..	..	..	..	..
Union	..	2	..	..	..	..	..	..	..	..	..	..	..
UP	267	47	212	2	166	..	..	115	..	..	..	50	13
WM	6	3	23	..	..	..	12	..	..	..	..	..	..
Total	3,864	417	2,776	69	900	132	2,771	2,402	2,103	67	7,032	2,542	102

RAILROAD SIGNALING INSTALLED IN 1968

Railroad	Highway Grade Crossings Protected by		Centralized Traffic Control				Interlockings			Miscellaneous Signal Units *	
	Flashing-light signals	Flashing-light signals & gates	Road Miles	Switches	Electric Locks	Signals	No. of Plants	Switches	Signals	Detectors †	
Algoma Cent.	20	1	..	..	..	..	..	..	..	..	13
A & SAB	1	..	..	..	..	..	..	..	..	..	..

rolling stock, M/W statistics

RAILROAD SIGNALING INSTALLED IN 1968 (Continued)

Railroad	Highway Grade Crossings protected by: Flashing-light signals	Highway Grade Crossings protected by: Flashing-light signals & gates	Centralized Traffic Control: Road Miles	Centralized Traffic Control: Switches	Centralized Traffic Control: Electric Locks	Centralized Traffic Control: Signals	Interlockings: No. of Plants	Interlockings: Switches	Interlockings: Signals	Miscellaneous Signal: Detectors †	Miscellaneous Signal: Units *
A & WP	..	..	..	..	..	..	..	..	..	..	26
Georgia	..	..	..	..	..	..	..	..	..	1	..
WRyA	..	..	..	..	..	..	..	..	..	1	8
BAR	3	..	..	..	..	..	..	..	..	..	..
BRC	..	..	..	..	..	..	..	..	..	..	12
B&LE	1	..	..	..	..	..	1	..	1	10	5
B&M	13	..	..	2	..	4	4	2	1	..	18
Burlington	22	11	30	5	20	49	..	..	..	..	..
C&S	7	..	..	..	..	..	..	..	..	..	..
FW&D	7	2	..	..	..	..	..	..	..	..	..
CN	227	48	7	11	9	18	3	3	23	30	6
CP Rail	149	20	310	71	27	369	..	..	..	3	90
C&O/B&O	55	17	5	1	..	9	..	..	..	10	..
C&IM	2	..	..	..	..	..	..	..	..	..	..
C&WI	..	1	..	..	..	..	..	..	..	..	..
Chicago TA	..	..	..	..	..	..	..	..	..	..	89
Cleveland TS	..	..	4	25	2	27	..	..	..	..	109
Clinchfield	1	..	..	..	..	..	..	..	..	1	1
D&H	5	1	..	..	..	..	..	..	..	1	4
D&RGW	10	1	51	15	3	75	1	4	8	16	2
DT&I	5	3	..	..	..	..	..	..	..	..	..
DM&IR	..	..	8	2	..	8	1	3	5	..	6
EJ&E	2	..	..	..	..	..	1	1	3	..	..
EL	2	9	4	2	1	9	2	4	6	3	..
FEC	2	16	..	..	..	..	..	..	..	13	..
Frisco	28	2	..	..	..	..	..	..	..	15	3
GN	19	6	146	34	17	230	4	10	22	8	33
GB&W	4	..	..	..	..	..	..	..	..	..	..
GM&O	9	4	12	2	10	13	..	..	..	18	..
IC	32	14	72	23	22	105	..	..	..	6	19
Jersey Central	2	1	..	..	..	..	1	..	..	..	..
KCT	..	..	..	..	..	..	..	..	..	..	16
LV	5	3	15	..	1	4	2	5	11	4	1
L&N	20	10	7	11	4	25	3	11	16	7	20
MEC	6	1	..	..	..	..	..	..	..	..	..
MTA-LI	..	18	..	..	..	..	..	..	..	..	..
NYCTA	..	..	..	..	..	..	5	44	74	..	254
PATH	..	..	..	..	..	..	..	..	..	..	8
Milwaukee	35	4	..	..	..	..	2	..	10	..	2
MKT	7	..	..	..	..	..	..	..	..	7	..
MP-T&P	13	6	..	..	..	..	1	..	1	..	2
Monon	4	5	..	..	..	..	..	..	..	..	..
NYNH&H	..	1	..	..	..	..	..	..	..	..	..
N&W	33	12	28	9	31	41	2	7	9	118	..
NS	..	6	..	..	..	..	..	..	..	..	..
NP	23	5	54	44	52	79	1	5	..	..	14
ONL	3	..	..	..	..	..	..	..	..	..	..
PGE	1	..	..	..	..	..	..	..	..	..	..
PC	47	40	139	49	17	95	18	72	61	32	257
PRSL	2	1	..	..	..	..	..	..	..	..	14
Reading	3	3	12	..	5	10	1	..	..	3	6
RF&P	..	5	..	..	..	..	..	..	..	2	..
Rock Island	10	5	..	..	..	..	2	..	..	1	36
SCL	46	8	18	22	15	44	3	3	6	..	..
SOO line	14	..	..	..	..	..	..	..	..	..	..
Southern	19	4	..	..	..	..	1	..	6	2	..
SP	39	209	..	..	..	..	2	4	7	41	1
SP&S	3	1	..	..	..	..	..	..	..	..	..
Union	..	..	..	..	..	..	1	4	5	1	2
UP	24	20	..	..	..	..	2	4	15	11	162
WM	1	1	..	..	..	..	..	..	..	..	..
Totals	986	525	922	328	236	1,214	64	186	290	365	1,239

†Detectors include high load, hotbox, dragging equipment, broken or loose wheel, wide load, and presence.
*Includes automatic train stops, cab signals, automatic blocks signals, retarders, non-interlocked power switches, spring switches and electric locks not in CTC territory, snow melters (switch heaters), train order and other indication signals, electric switch lamps, and ACI scanners.

1968 FREIGHT-TRAIN CAR ORDERS

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Order	Delivery Date	Builder
Allied Chemical	70	Cov. Hopper	200,000	54	7	63,200	June	July	Pullman-Standard
	55	Tank	200,000	..	..	.....	June	Oct.	General American

1968 FREIGHT-TRAIN CAR ORDERS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Order	Delivery Date	Builder
Atchison, Topeka & Santa Fe	50	Box	200,000	60	..	.....	Nov.	Mar. '69	Thrall Car
	500	Box	140,000	50	..	.....	Nov.	June '69	Company Shops
	200	Box	140,000	50	6	.....	Nov.	Dec. '69	Company Shops
	16	Box	140,000	50	..	.....	Aug.	Nov.	Evans Products
	300	Gondola	200,000	53	6	.....	Feb.	Feb. '69	Company Shops
	50	Gondola	200,000	65	..	.....	Nov.	May '69	Company Shops
	14	Hopper	200,000	41	6	82,900	Nov.	June '69	Gunderson Bros.
	20	Flat	200,000	48	..	.....	Nov.	June '69	Company Shops
	48	Flat	140,000	89	4	67,000	July	Oct.	Magor Railcar Div.
	16	Flat	140,000	89	4	54,200	July	Nov.	Pullman-Standard
	2	Flat	140,000	89	..	.....	Mar.	Oct.	Company Shops
	3	Flat	140,000	89	4	.....	May	Dec.	Company Shops
	100	Mech. Refrig.	200,000	50	..	.....	Dec.	July '69	Pacific Car & Foundry
	300	Mech. Refrig.	140,000	50	..	.....	Dec.	July '69	Pacific Car & Foundry
	300	Hopper	200,000	38	9¼	.....	Dec.	June '69	Greenville Steel Car
	350	Hopper	200,000	45	1¾	.....	Dec.	Apr. '69	Greenville Steel Car
	50	Air Dump	140,000	39	5	68,900	Dec.	1st Qtr. '69	Magor Railcar Div.
Atlanta & West Point	50	Pulpwood	154,000	45	6	53,000	Apr.	Sept.	Thrall Car
Bessemer & Lake Erie	100	Gondola	200,000	52	6	67,800	June	Dec.	Greenville Steel Car
	15	Coil Steel Gondola	200,000	52	6	86,500	Oct.	Mar. '69	Ortner Freight Car
Butler Mfg. Co.	25	Hoppers	.....	..	..	.....	Mar.	3rd Qtr.	North American Car
Boston & Maine	26	Box	140,000	50	..	64,000	Oct.	Oct.	U.S. Railway Equip.
Chesapeake & Ohio/Baltimore & Ohio	213	Box	140,000	60	..	87,000	Jan.	May	Company Shops
	76	Box	200,000	60	..	129,000	Jan.	May	Company Shops
	50	DFB Box	140,000	50	..	78,500	July	Nov.	Pullman-Standard
	34	Box	200,000	60	..	.....	Aug.	Dec.	Pullman-Standard
	26	Box	140,000	60	..	.....	Aug.	Dec.	Pullman-Standard
	7	Box	200,000	86	..	.....	Sept.	Dec.	Greenville Steel Car
	200	Cov. Hopper	200,000	32	..	58,000	Mar.	June	Pullman-Standard
	40	Covered Hopper	200,000	49	..	71,000	Feb.	Apr.	General American
	200	Cov. Hopper	200,000	..	..	.....	Oct.	Jan. '69	Pullman-Standard
	100	Caboose	.....	30	..	55,000	June	Nov.	International Car
	1000	Gondola	200,000	52	6	69,000	Jan.	July	Company Shops
	100	Gondola	200,000	65	..	.....	Oct.	Feb. '69	Greenville Steel Car
	7	Auto Rack	140,000	89	..	.....	June	July	Paragon
	49	Auto Rack	140,000	89	..	.....	Aug.	Dec.	Whitehead & Kales
	90	Auto Rack	140,000	89	..	.....	July	Dec.	Paragon
	38	Auto Rack	140,000	89	..	.....	July	Dec.	Whitehead & Kales
	23	Auto Rack	140,000	89	..	.....	Oct.	Mar. '69	Paragon
	50	Flat, Coil Steel	200,000	46	8	63,100	May	June	Evans Products
	89	Flat, Coil Steel	200,000	46	8	.....	Nov.	Jan. '69	Evans Products
	2500	Hopper	200,000	45	..	.....	Dec.	Sept. '69	Company Shops
Chicago & North Western	5	Cov. Hopper	200,000	49	9	60,700	Apr.	May	ACF
	10	Box	140,000	86	6	117,000	June	Oct.	Thrall Car
	25	Box	200,000	86	6	117,000	June	Oct.	Thrall Car
	11	Box	100,000	40	6	62,000	July	Dec.	Maxson Corp.
	70	Ins. Box	140,000	50	6	80,000	Aug.	Nov.	Fruit Growers Express
	50	Bulkhead Flat	140,000	48	6	.....	Aug.	Dec.	Thrall Car
	107	Ore	200,000	31	11	59,600	Nov.	Mar. '69	Greenville Steel Car
	2000	Box	140,000	50	6	55,000	Nov.	Mar.-June '69	Pullman-Standard
	2	Flat	400,000	73	4	192,000	Apr.	Dec.	Company Shops
	13	Box	140,000	50	6	80,000	Nov.	Mar. '69	Maxson Corp.
	5	Box	200,000	50	6	80,000	Nov.	Mar. '69	Maxson Corp.
Chicago, Burlington & Quincy	400	Hopper	200,000	47	11	64,000	Nov.	Jan.-Feb. '69	Bethlehem Steel
	1	Flat	154,000	60	..	.....	Oct.	Jan. '69	Maxson Corp.
	21	Hi-Cube Box	200,000	86	6	121,000	July	Jan. '69	Greenville Steel Car
	25	Cov. Hopper	200,000	54	7	62,400	Mar.	June	Pullman-Standard
	88	Cov. Hopper	200,000	34	9	54,800	June	June-July	ACF
Chicago, Milwaukee, St. Paul & Pacific	5	Cov. Hopper	200,000	49	9	62,000	Jan.	Mar.	ACF
	12	Box	200,000	50	..	61,500	Oct.	Mar. '69	ACF
	200	Box	200,000	86	6	110,000	Mar.	July	Thrall Car
	10	Box	200,000	60	..	.....	Aug.	Jan. '69	Thrall Car
	50	Gondola	200,000	65	6	.....	Oct.	April '69	Thrall Car
	50	Cov. Gondola	200,000	52	6	.....	Oct.	April '69	Thrall Car
Chicago, Rock Island & Pacific	7	Box	.....	60	9	77,000	Feb.	Apr.	Evans Products
	3	Box	.....	86	6	109,000	May	Nov.	Thrall Car
	50	Hopper	.....	29	6	662,000	July	July	General American
	35	Hopper	200,000	50	4-5/16	72,650	July	July	General American
	1	Box	.....	86	6	116,000	May	Dec.	Thrall Car
	200	Cov. Hopper	200,000	49	7	61,400	Dec.	Apr. '69	Pullman-Standard
Cuyuna Realty Co.	150	Flat	140,000	60	..	70,000	Dec.	July '69	General Steel Ind.
	100	Hopper	200,000	45	..	60,800	Dec.	Apr.	Bethlehem Steel
Delaware & Hudson	200	Hopper	200,000	46	10	63,300	Mar.	May-June	Bethlehem Steel
Detroit & Toledo Shore Line	4	Hi-Cube Box	200,000	86	6	121,000	Dec.	Jan. '69	Greenville Steel Car
Detroit, Toledo & Ironton	150	Hi-Cube Box	200,000	86	6	110,200	Jan.	Aug.	Greenville Steel Car
Denver & Rio Grande Western	5	Gondola	250,000	46	11	60,000	Nov.	Mar. '69	Thrall Car
	150	Hopper	200,000	48	..	63,000	Nov.	Mar. '69	Bethlehem Steel
	250	Ins. Box	140,000	50	6	79,500	Nov.	June '69	Pacific Car & Foundry
	50	Box	140,000	50	7	72,600	Nov.	Mar. '69	Gunderson Bros.
	25	Gondola	200,000	52	6	56,000	Nov.	Apr. '69	Thrall Car
	100	Hopper	200,000	48	..	63,000	Jan.	May	Bethlehem Steel
	100	Box	140,000	50	6	68,000	Jan.	May	General American
	25	Gondola	140,000	65	6	71,400	Jan.	June	Thrall Car
Duluth, Missabe & Iron Range	13	Cov. Hopper	200,000	39	8	59,700	Jan.	May/June	ACF
Dynabulk Corp.	18	Cov. Hopper	196,000	61	1	67,000	June	Nov.	Gunderson Bros.
Elgin, Joliet & Eastern	100	Gondola	140,000	66	..	74,500	Oct.	Mar. '69	Thrall Car
	26	Coil Gondola	198,000	48	..	65,000	Feb.	May	Evans Products
Erie-Lackawanna	50	Flat	140,000	53	6	57,900	Dec.	Apr. '69	Magor Railcar
	18	Hi-Cube Box	200,000	86	6	112,200	June	Nov.	Greenville Steel Car
	20	Caboose	100,000	30	..	50,000	Dec.	Aug. '69	International Car
Florida East Coast	19	Auto Rack	.....	89	4	85,000	Feb.-June	May-Dec.	Whitehead & Kales
	4	Auto Rack	.....	89	4	85,000	Apr.	June	Paragon
Fruit Growers Express	100	RBL	140,000	50	9	93,000	Jan.	Apr-June	Company Shops
	619	RBL	140,000	50	6	79,800	Jan.	June-Oct.	Company Shops
	50	RBL	200,000	51	9	85,800	Feb.	Oct.	Company Shops
	100	RBL	140,000	51	9	80,700	Sept.	Nov.	Company Shops
	250	RBL	140,000	51	4⅞	80,700	Dec.	Feb.-Apr. '69	Company Shops
	150	RBL	140,000	51	1⅞	80,700	Dec.	Feb.-Apr. '69	Company Shops
	275	RBL	140,000	51	4⅞	93,600	Dec.	June-Aug. '69	Company Shops
	447	RBL	140,000	50	6	80,700	Dec.	Sept.-Nov. '69	Company Shops
General American Transportation Corp.	10	Cov. Hopper	200,000	54	1½	53,000	Mar.	May	Magor Railcar
Georgia Railroad	50	Pulpwood	154,000	45	6	53,000	Apr.	Sept.	Thrall Car
Grand Trunk Western	51	Hi-Cube Box	200,000	86	6	121,000	Dec.	Jan. '69	Greenville Steel Car

(Continued)

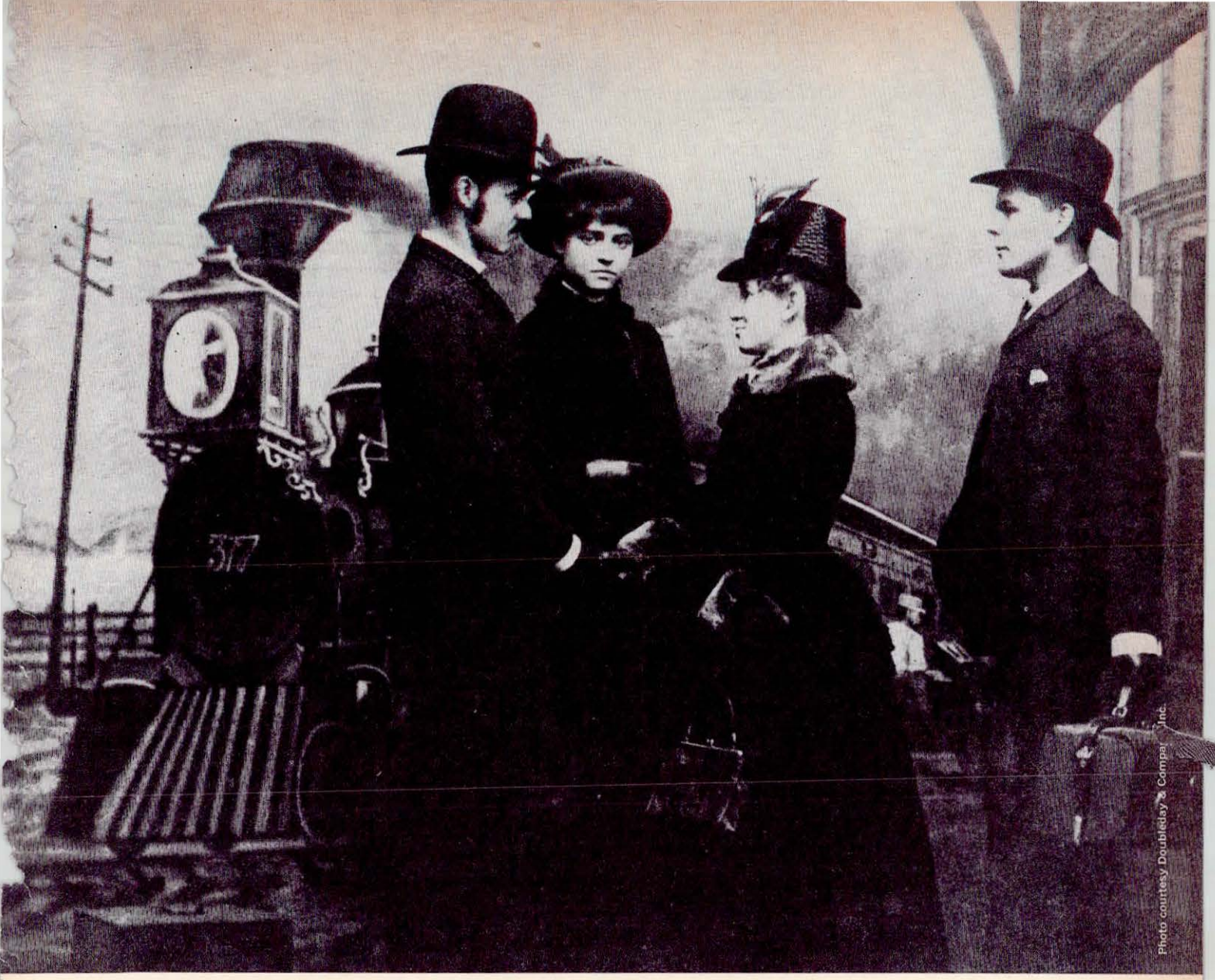


Photo courtesy Doubleday & Company, Inc.

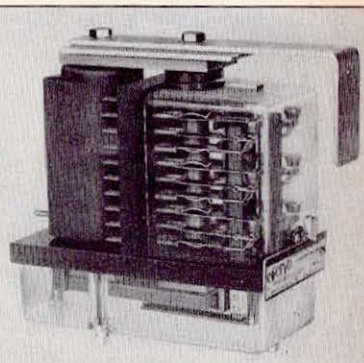
"...and don't fret, Millicent—they tell me this fine railway is fully equipped with Servo's reliable, plug-in safety type relays."

Too bad we weren't actually on the scene in the 19th century—it would have given us a nice, warm feeling to know that the presence of our products could help reassure sweet Millicent and her beau.

For the modern railroads of the 20th century, we've developed an improved new series of plug-in safety type signal relays. They have been designed to meet or exceed all the requirements of AAR Specification 204 (Part 77), and are ideal for a wide variety of vital circuit applications. Special emphasis has been placed on fail-safe operation and complete circuit isolation. A major feature of these new relays is their unique contact design, which combines the high stability of molded-in, non-fusing contacts with the convenience of being able to insert or remove individual contacts when required. A versatile mounting arrangement permits the relay to be used as a plug-in unit—or installed as a shelf-type relay.

Can these new relays help reassure you about your vital circuit applications? We think so. To find out for yourself, send for Tech Data Publication 2017.

SS-100
General Purpose Relay
SS-101
Slow Release Relay
SS-110
Heavy Duty Contact Relay
SS-115
Power Transfer Relay
SS-120
Track Relay



Plug-In Safety Type Signal Relay employs rugged, high efficiency magnetic circuit. Front contacts are silver making against non-fusing silver-impregnated carbon. Electrical breakdown voltage is 3000 volts AC minimum. Other design and construction features include: liberal electrical creepage and air gap; gravity release armature; nickel plated contacts; high strength phenolic contact adjustment ladders; impact-resistant encapsulated coil.

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Circle 5 on coupon page 103

1968 FREIGHT-TRAIN CAR ORDERS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date Delivery	Builder
Grand Trunk Western (continued)	218	Box	140,000	60	9	70,400	May	July/Aug.	GECC Leasing Corp.
	173	Pedestal Flat	.....	89	4	.....	Aug.	Oct./Nov.	Procor Ltd.
	51	Hy-Cube Box	140,000	86	6	170,000	Sept.	Dec. '68/Jan. '69	U.S. Leasing Inter.
	108	Box	140,000	60	9	70,400	Sept.	Dec.	GECC Leasing Corp.
	249	Tri-Levels	.....	89	4	.....	Sept.	Dec. '68/Jan. '69	U.S. Leasing Inter.
	16	Box	156,000	60	9	107,000	Sept.	Dec.	U.S. Leasing Inter.
	249	Flat	140,000	89	4	60,600	Oct.	Dec.	Pullman-Standard
	83	Box	200,000	60	9	112,800	Oct.	Dec.	Pullman-Standard
	25	Box	140,000	60	9	89,100	Oct.	Dec.	Pullman-Standard
	105	Box	200,000	86	6	110,000	Mar.	Dec.	Thrall Car
Great Northern	100	Wood Chip	200,000	59	6	68,600	Feb. '68	2nd Qtr. '68	Gunderson Bros.
	10	Flat	140,000	89	0	86,100	Jan. '68	2nd Qtr. '68	ACF
	15	Airslide Hopper	200,000	48	11	71,200	Jan. '68	1st Qtr. '68	General American
	6	Airslide Hopper	200,000	48	11	71,200	Sept. '68	3rd Qtr. '68	General American
	300	Cov. Hopper	200,000	49	9	63,400	May '68	3rd Qtr. '68	ACF
	150	Box	140,000	50	8	76,600	Feb. '68	3rd Qtr. '68	Pacific Car & Foundry
	1	Flat	140,000	89	0	66,900	Sept. '68	4th Qtr. '68	ACF
	30	Air Dump	200,000	41	1	80,000	Oct. '68	4th Qtr. '68	Difco
	10	Caboose	100,000	30	0	54,800	Dec. '67	2nd Qtr. '68	International Car
	10	Caboose	100,000	30	0	54,800	Jan. '68	2nd Qtr.'68	International Car
	12	Auto Rack	140,000	89	0	.....	Jan. '68	1st Qtr. '68	Paragon
	5	Auto Rack	140,000	89	0	.....	Nov. '68	1st Qtr. '69	Paragon
Green Bay & Western	10	Box	140,000	50	..	153,000	Dec.	Apr. '69	Pullman-Standard
	50	Box	140,000	50	..	78,000	Oct.	Jan. '69	U.S. Railway Equip.
Gulf, Mobile & Ohio	100	Wood Chip	140,000	56	1	66,500	Jan.	May-June	Greenville Steel Car
	200	Box	140,000	50	6	67,000	Mar.	June	Pullman-Standard
	20	Box	140,000	50	6	.....	Oct.	Feb. '69	Pullman-Standard
	75	Flats	140,000	50	..	54,000	May	Nov.	Thrall Car
Halliburton	1	Box	200,000	60	9	78,600	Aug.	Nov.	Pullman-Standard
Humble Pipe Line Co.	80	Cov. Hopper	200,000	57	7	66,800	Aug.	Oct.	Pullman-Standard
	22	Tank	100,000	..	..	.....	Dec.	May '69	General American
Illinois Central	1720	Hopper	.....	49	6	62,500	Feb.		Company Shops
	600	Hopper	.....	29	6	62,500	Nov.	1st Qtr. '69	Company Shops
	5	Hi-Cube Box	200,000	86	6	121,000	Oct.	Nov.	Greenville Steel Car
	23	Box	140,000	50	6	62,400	Jan.	Mar.	Pullman-Standard
	5	Box	200,000	60	9	88,200	Aug.	Nov.	Pullman-Standard
Island Creek Coal Co.	115	Cov. Hopper	200,000	50	11¾	62,700	Feb.	Oct.-Nov.	Greenville Steel Car
Kansas City Southern	16	Cov. Hopper	200,000	54	7	62,600	Nov.	Jan. '69	Pullman-Standard
Lehigh Valley	100	Cov. Hopper	200,000	50	1	64,000	June	Dec.	P-C Shop
	100	Box	140,000	50	6	77,000	June	Dec.	Dispatch Shop, Inc.
	50	Box	140,000	50	1	85,900	June	Jan. '69	Dispatch Shop, Inc.
Louisville & Nashville	62	Hi-Cube Box	200,000	86	6	120,000	June	Oct.	Greenville Steel Car
	3	Box	200,000	60	..	98,000	Sept.	Dec.	Thrall Car
	300	Box	140,000	50	6	64,000	Dec.	Oct. '69	Company Shops
	100	Box	140,000	50	6	63,000	Dec.	Dec. '69	Company Shops
Merchants Despatch Transportation Co.	55	RBL	140,000	50	6	77,600	Apr.	Oct.	Pacific Car & Foundry
Missouri-Kansas-Texas	300	Hopper	200,000	45	1¾	60,600	Jan.	Jul.	Greenville Steel Car
	400	Hopper	200,000	44	11	62,300	Feb.	June-Jul.	Bethlehem Steel
	300	Cov. Hopper	200,000	49	6	63,000	Feb.	Apr.-May	Pullman-Standard
	100	Flat	200,000	60	..	67,400	Mar.	Oct.-Nov.	Thrall Car
	2	Flat, Special	400,000	44	..	109,100	Mar.	Nov.	Thrall Car
	1	Flat, Special	200,000	60	..	74,900	Mar.	May	Thrall Car
	100	Ins. Box	140,000	50	6	79,400	Feb.	Oct.	Pacific Car & Foundry
	100	Ins. Box	200,000	60	6	91,200	Feb.	Nov.	Pacific Car & Foundry
	17	Box, Special	140,000	60	9	82,000	May	Sept.	ACF
	9	Hi-Cube Box	200,000	86	6	117,000	Sept.	Jan. '69	Greenville Steel Car
	10	Caboose	100,000	30	5	53,700	June	Jan. '69	Darby Corp.
Missouri Pacific	100	Box	200,000	60	8	81,200	June	Dec.	ACF
	250	Box	140,000	50	6	61,500	June	Jan. '69	ACF
	200	Bulkhead Flat	200,000	60	..	88,000	Sept.	Apr. '69	General Steel Ind.
	100	Flat	200,000	60	..	72,000	Sept.	May '69	General Steel Ind.
	157	Hi-Cube Box	200,000	86	6	119,700	Mar.	Sept.	Greenville Steel Car
	8	Hi-Cube Box	200,000	86	6	121,000	Oct.	Dec.	Greenville Steel Car
	11	Box	200,000	60	9	100,000	Sept.	Jan. '69	Thrall Car
	2	Airslide Hopper	200,000	48	11	70,800	June	June	General American
	200	Ins. Box	200,000	60	6	94,000	Nov.	Apr. '69	Pacific Car & Foundry
	200	Ins. Box.	140,000	51	1	74,500	Feb.	Sept.	Pacific Car & Foundry
	100	Ins. Box	140,000	50	6	77,200	May	Oct.	Pacific Car & Foundry
	5	Flats	140,000	60	..	66,000	Feb.	Sept.	Thrall Car
Monon	100	Box	154,000	50	6	58,500	Oct.	Feb. '69	Pullman-Standard
	100	Cov. Hopper	.....	34	9	54,500	Nov.	Mar. '69	ACF
Norfolk & Western	263	Box	152,000	86	6	111,000	Apr.	Aug.-Dec.	Thrall Car
	20	Box	147,000	86	6	116,000	May	Dec.	Thrall Car
	23	Box	192,600	60	8	70,400	July	Sept.-Oct.	ACF
	53	Box	147,000	86	6	116,000	July	Dec. '68-Jan. '69	Thrall Car
	20	Box	200,000	60	8	73,500	Aug.	Dec.	ACF
	50	Caboose	110,000	30	..	55,000	Sept.	Dec.	International Car
	1000	Cov. Hopper	200,000	54	6	63,000	Oct.	Jan. '69	Pullman-Standard
	269	Box	165,000	60	9	98,000	Oct.	Jan.-Mar. '69	Thrall Car
	1000	Box	154,000	50	..	61,100	Oct.	Apr.-June '69	ACF
	1000	Box	154,000	50	..	61,100	Nov.	June-Aug. '69	ACF
	1000	Hopper	200,000	45	..	59,500	May	Jul.-Dec.	Company Shops
	2500	Hopper	200,000	45	..	59,500	Nov.	Dec. '68-Dec. '69	Company Shops
	150	Caboose	110,000	30	..	55,000	Dec.	Aug.-Dec. '69	International Car
Norfolk Southern	30	Wood Chip	140,000	56	1	65,400	June	Sept.	Greenville Steel Car
North American Car	19	Flat	140,000	89	4	73,400	Feb.	Apr.	Bethlehem Steel
	55	Flat	140,000	89	4	54,400	Feb.	Mar.	Pullman-Standard
	11	Flat	140,000	89	4	54,400	Mar.	Apr.	Pullman-Standard
	125	Cov. Hopper	200,000	49	7	61,200	May	Aug.	Pullman-Standard
	82	Cov. Hopper	200,000	49	7	61,300	Aug.	Sept.	Pullman-Standard
	50	Cov. Hopper	200,000	54	7	64,200	Nov.	Dec.	Pullman-Standard
	150	Cov. Hopper	200,000	49	7	61,400	Nov.	Mar. '69	Pullman-Standard
	115	Tank	200,000	..	..	.....	Jan.-Oct.	Apr.-Dec.	North American Car
	678	Tank	200,000	..	..	.....	Aug.-Nov.	Jan.-July '69	North American Car
	30	Hoppers	200,000	..	..	.....	June	Feb. '69	North American Car
	55	Auto Rack	.....	..	..	.....	Feb.	Mar.	Paragon
	11	Auto Rack	.....	..	..	.....	Mar.	July	Paragon
	50	Box	140,000	..	..	.....	Mar.	May	Thrall Car
	1	Flat	.....	89	4	.....	Apr.	July	ACF
	1	Auto Rack	.....	..	..	.....	May	July	Whitehead & Kales
	51	Box	.....	50	6	.....	Apr.	3rd Qtr.	Thrall Car
Northern Pacific	100	Cov. Hopper	200,000	49	9	61,000	Jan.	Apr.	ACF
	15	Airslide Cov. Hopper	190,000	48	11	71,300	Feb.	Mar.	General American
	150	Hopper	200,000	49	9	59,700	Jan.	Oct.	Darby Corp.
	150	Wood Chip	200,000	59	4	.....	June	Jan. '69	Thrall Car
	150	Box	140,000	50	6	67,000	Oct.	May '69	Company Shops
	150	Flat	140,000	60	..	.....	Dec.	Oct. '69	General Steel Ind.

1968 FREIGHT-TRAIN CAR ORDERS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Delivery Date	Builder
Northern Pacific (continued)	25	Caboose	100,000	30	..	53,300	Dec.	Apr.-May '69	International Car
	100	Cov. Hopper	200,000	54	7	64,400	Dec.	Mar. '69	Pullman-Standard
	100	Hopper	200,000	45	0	64,300	Dec.	Apr. '69	Bethlehem Steel
	15	Cov. Hopper	200,000	48	11	71,300	Dec.	Apr. '69	General American
	30	Versa-Deck Flat	140,000	89	4	63,200	Dec.	Apr. '69	ACF
Penn Central	1750	Gondola	200,000	52	6	.....	Jan.	June	Company Shops
	600	Gondola	140,000	65	6	.....	Jan.	July	Company Shops
	50	Cov. Hopper	200,000	63	6	70,000	Apr.	June	ACF
	361	Cov. Hopper	200,000	50	11	.....	Apr.	Oct.	Company Shops
	243	Box	140,000	60	8	.....	Apr.	Oct.	Company Shops
	40	Box	200,000	60	8	.....	Apr.	Oct.	Company Shops
	52	Box	200,000	60	8	.....	Apr.	Dec.	Company Shops
	47	Box	200,000	60	8	.....	Apr.	Nov.	Company Shops
	50	Box	140,000	60	8	.....	Apr.	Dec.	Company Shops
	38	Hi-Cube Box	200,000	86	6	112,200	Aug.	Oct.	Greenville Steel Car
	50	Caboose	.....	..	..	.....	Apr.	1st Qtr. '69	Company Shops
Pennsylvania Power & Light	105	Hopper	200,000	44	11⅞	62,400	Feb.	July	Bethlehem Steel
PPG Industries, Inc.	24	Tank	200,000	..	..	.....	Jan.-May	June-Nov.	General American
	32	Tank	250,000	..	..	.....	May	Nov.	General American
Puget Sound Tug & Barge	10	Flat	140,000	89	4	62,400	July	Sept.	Bethlehem Steel
Reading	150	Cov. Hopper	100,000	41	..	61,000	Dec.	June '69	Company Shops
	100	DF Box	154,000	50	9	70,000	May	July	Company Shops
	100	Cov. Hopper	100,000	41	..	66,000	Feb.	Aug.	Company Shops
	25	Flat	100,000	55	..	63,100	Feb.	Apr.	Evans Products
	2	Dep. Ctr. Flat	190,000	71	9	104,200	Apr.	July	Berwick Forge
	200	Box	154,000	50	9	70,000	Sept.	Mar. '69	Company Shops
Reynolds Metals Co.	200	Cov. Hopper	200,000	..	..	52,700	Dec.	June '69	Magor Railcar
St. Louis-San Francisco	100	Cov. Hopper	200,000	41	1	61,500	July	Nov.	Pullman-Standard
	100	Gondola	200,000	52	6	66,000	July	Mar. '69	St. Louis Car
	10	Box	180,000	60	9	80,000	Dec.	Feb. '69	Thrall Car
	12	Airslide Hopper	190,000	48	11	72,500	Dec.	Mar. '69	General American
	8	Caboose	100,000	30	1	55,000	Dec.	May '69	International Car
	20	Airslide Hopper	154,000	29	6	56,100	Apr.	July	General American
	10	Caboose	100,000	30	1	55,500	Mar.	June	International Car
	2	Flat	140,000	60	..	61,500	Feb.	Aug.	Thrall Car
	5	Airslide Hopper	190,000	48	11	72,500	Apr.	June	General American
	15	Ins. Box	200,000	60	1	98,400	Mar.	June	Pullman-Standard
	425	Box	140,000	50	..	61,500	Aug.	Jan.-Mar. '69	ACF
St. Louis Southwestern	100	Flat	140,000	60	..	68,500	Dec.	Feb.-Mar. '69	Greenville Steel Car
	500	Box	146,000	50	6	72,600	May	Sept.	Gunderson Bros.
	20	Caboose	100,000	32	..	53,300	Feb.	Nov.-Dec.	International Car
Seaboard Coast Line	180	Hopper	140,000	50	10	70,800	May	Aug.-Sept.	Pullman-Standard
	220	Gondola	140,000	55	0	60,800	May	Oct.	Pullman-Standard
	100	Box	200,000	60	9	73,000	July	Nov.	Pullman-Standard
	1200	Box	140,000	50	6	.....	Nov.	Jan.-Apr. '69	Pullman-Standard
Shell Oil	53	Tank	200,000	..	..	.....	Aug.-Sept.	Nov.	General American
Soo Line	100	Gondola	199,000	52	6	64,000	Oct.	1st Qtr. '69	Ortner Freight Car
	15	Cov. Gondola	188,000	52	6	75,000	Nov.	1st Qtr. '69	Ortner Freight Car
	10	Cov. Gondola	186,000	52	6	77,000	Nov.	1st Qtr. '69	Ortner Freight Car
	10	Caboose	100,000	30	..	53,300	Nov.	May '69	International Car
	50	Hopper	200,000	47	11⅜	69,200	Nov.	Feb.-Mar. '69	Bethlehem Steel
	10	Flat	140,000	98	4	60,900	Nov.	Feb. 69	Bethlehem Steel
	200	Box	140,000	52	9	.....	.....	2nd Qtr. '69	Company Shops
Southern	84	Hi-Cube Box	200,000	86	6	117,500	Apr.	Sept.-Oct.	Greenville Steel Car
	600	Hopper	200,000	50	11¼	64,000	Oct.	Mar.-Oct. '69	Greenville Steel Car
	500	Box	140,000	50	6	74,800	Jan.	Apr.-May	Pullman-Standard
	500	Box	140,000	50	6	62,500	June	Sept.-Oct.	Pullman-Standard
	1000	Box	140,000	50	6	62,600	Sept.	Nov.-Dec.	Pullman-Standard
	400	Gondola	200,000	52	6	66,800	Oct.	Mar. '69	Pullman-Standard
	600	Cov. Hopper	200,000	41	2	63,000	Oct.	Feb.-Mar.'69	ACF
Southern Pacific	500	Box	146,000	50	6	72,600	July	Dec.	Gunderson Bros.
	105	Hopper	179,000	41	6	82,900	Apr.	Dec.	Gunderson Bros.
	7	Hi-Cube Box	200,000	86	6	121,000	Sept.	Dec.	Greenville Steel Car
	350	Flat	140,000	53	6	53,000	Aug.	Oct.-Dec.	ACF
	200	Flat	140,000	53	6	.....	Aug.	Jan. '69	Thrall Car
	45	Box	200,000	60	..	.....	Aug.	Mar. '69	Thrall Car
Spokane, Portland and Seattle	6	Caboose	100,000	30	..	53,300	Dec.	May '69	International Car
Texas & Pacific	5	Flat	200,000	61	6	66,000	Feb.	Sept.	Thrall Car
Trailer Train	455	Flat	118,000	89	4	61,000	Jan.-Aug.	Feb.-Oct.	ACF
	253	Flat	130,000	89	0	73,000	Feb.-Aug.	Mar.-Sept.	ACF
	180	Flat	150,000	89	4	70,000	Mar.-Aug.	Apr.-Oct.	ACF
	212	Flat	118,000	89	4	61,000	Sept.	Jan. '69	ACF
	469	Flat	130,000	89	4	74,000	Jan.-May	Feb.-June	Bethlehem Steel
	431	Flat	130,000	89	4	66,000	Aug.-Nov.	Sept.-Dec.	Bethlehem Steel
	332	Flat	150,000	89	4	68,000	Mar.-May	Apr.-June	Bethlehem Steel
	617	Flat	150,000	89	4	69,000	June-Nov.	July-Dec.	Bethlehem Steel
	302	Flat	118,000	89	4	61,000	Jan.-May	Feb.-June	Pullman-Standard
	300	Flat	130,000	89	0	73,000	Mar.-May	Mar.-June	Pullman-Standard
	175	Flat	147,000	60	0	72,000	Jan.-Mar.	Apr.-May	Pullman-Standard
	216	Flat	150,000	89	4	70,000	Mar.-May	May-June	Pullman-Standard
	70	Flat	150,000	89	4	65,000	Apr.	June	Pullman-Standard
	355	Flat	151,000	60	0	68,000	Jan.-May	Feb.-June	Pullman-Standard
	405	Flat	118,000	89	4	61,000	Aug.-Sept.	Dec.	Pullman-Standard
	75	Flat	147,000	60	0	72,000	Oct.-Nov.	Dec.-Jan.	Pullman-Standard
	232	Flat	151,000	60	0	68,000	Oct.-Dec.	Dec.-Jan.	Pullman-Standard
	170	Flat	150,000	89	4	70,000	Aug.-Dec.	Sept.-Feb.	Pullman-Standard
	110	Flat	150,000	89	4	65,000	Sept.-Oct.	Dec.-Jan.	Pullman-Standard
	145	Flat	150,000	89	4	68,000	Sept.-Nov.	Dec.-Jan.	Pullman-Standard
TransGo, Inc.	59	Tank	200,000	..	..	.....	Jan.-Dec.	1968-69	General American
Transport Leasing Div.	1	Cov. Hopper	200,000	65	11	52,400	Jan.	Jan.	Pullman-Standard
	300	Cov. Hopper	200,000	49	7	61,400	Jan.	Apr.-May	Pullman-Standard
	20	Cov. Hopper	200,000	54	7	62,600	Feb.	June	Pullman-Standard
	8	Cov. Hopper	200,000	54	7	62,800	Apr.	June	Pullman-Standard
	5	Cov. Hopper	200,000	57	7	68,200	Aug.	Oct.	Pullman-Standard
	15	Cov. Hopper	200,000	57	7	68,200	Sept.	Oct.	Pullman-Standard
	50	Cov. Hopper	200,000	54	7	64,200	Sept.	Nov.	Pullman-Standard
	200	Ins. Box	140,000	51	6	78,000	Sept.	Feb. '69	Pullman-Standard
	30	Cov. Hopper	200,000	57	7	68,500	Oct.	Dec.	Pullman-Standard
	100	Cov. Hopper	200,000	57	7	68,200	Nov.	Apr. '69	Pullman-Standard
	30	Ins. Box	140,000	51	6	78,000	Nov.	Feb. '69	Pullman-Standard
	7	Box	200,000	60	9	.....	Dec.	Jan. '69	Pullman-Standard
	67	Box	140,000	60	9	.....	Dec.	Jan. '69	Pullman-Standard
	25	Cov. Hopper	200,000	54	7	64,400	Dec.	Mar. '69	Pullman-Standard
Union	2	Gondola	200,000	52	6	67,400	Sept.	Dec.	Greenville Steel Car
Union Carbide Corp.	34	Tank	400,000	..	..	.....	Aug.	1969	General American
Union Pacific	100	Ins. Box	200,000	60	..	100,100	Jan.	May-June	Company Shops
	100	Box	100,000	50	6	.....	May	June-Dec.	Pullman-Standard

(Continued)

1968 FREIGHT-TRAIN CAR ORDERS (Continued)

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Order	Delivery Date	Builder
Union Pacific (continued)	50	Flat	140,000	53	6	.....	Jan.	Apr.-May-June	Company Shops
	50	Cov. Hopper	200,000	..	..	.....	Apr.	May	General American
	200	Cov. Hopper	200,000	54	7	64,800	May	June-July	Pullman-Standard
	41	Box	180,000	86	6	.....	May	July-Aug.	Thrall Car
	100	Flat	140,000	70	..	.....	Aug.	Oct. '68-Feb. '69	Company Shops
	54	Box	180,000	60	..	.....	Sept.	Mar. '69	Thrall Car
	22	Box	180,000	86	6	.....	Oct.	Jan. '69	Greenville Steel Car
	95	Gondola	250,000	..	..	.....	Nov.	Feb.-Mar. '69	Thrall Car
	250	Cov. Hopper	250,000	54	7	64,400	Dec.	Mar.-Apr. '69	Pullman-Standard
	300	Hopper	180,000	45	..	60,800	Nov.	Mar-Apr. '69	Bethlehem Steel
	500	Mech. Refrig.	140,000	50	..	.....	Oct.	Apr.-May-June '69	Pacific Car & Foundry
	500	Box	180,000	60	9	.....	Sept.	May-Sept. '69	Company Shops
	400	DF Box	140,000	50	6	.....	Sept.	Jan.-May '69	Company Shops
	200	Box	140,000	50	6	.....	Sept.	Mar.-Dec. '69	Company Shops
	500	Flat	180,000	62	..	.....	Sept.	Jan.-Aug. '69	Company Shops
	300	Flat	140,000	53	6	.....	Sept.	Aug.-Dec '69	Company Shops
	200	Cov. Hopper	180,000	..	..	.....	Sept.	Sept.-Dec. '69	Company Shops
	150	Gondola	140,000	65	6	65,000	Sept.	Feb. '69	Magor Railcar
	100	Wood Chip	180,000	..	..	.....	Dec.	May-June '69	Gunderson Bros.
	200	Box	200,000	50	6	.....	Dec.	Apr.-Aug. '69	Thrall Car
	300	Gondola	200,000	52	6	.....	Nov.	Apr. '69	Southern Iron & Equip.
Union Tank Car	5	Flat	140,000	89	4	68,000	Nov.	Dec. '69	Bethlehem Steel
	173	Flat	140,000	89	4	68,800	Sept.	Oct.-Nov.	Bethlehem Steel
U.S.A. Mobility Command	10	Flat	280,000	58	4	130,000	June	Jan. '69	General Steel Ind.
Various Industrial Orders	1350	Tank	.....	..	..	.....	1968	1968-1969	ACF
	5	Flat	.....	..	..	.....	1968	1968-1969	ACF
	400	Box	.....	..	..	.....	1968	1968-1969	ACF
	1867	Cov. Hopper	.....	..	..	.....	1968	1968-1969	ACF
	202	Cov. Hopper	.....	..	..	.....	1968	1969	ACF
	3	Tank	.....	..	..	.....	1968	1969	ACF
	133	Tank	.....	..	..	.....	Jan.-Dec.	Feb. '68-Mar. '69	General American
	105	Box	140,000	50	6	78,000	Jan.-Apr.	July-Sept.	Thrall Car
	10	Pulpwood	140,000	60	..	.....	Sept.	Jan. '69	Thrall Car
	20	Gondola	200,000	48	..	.....	June	Jan. '69	Thrall Car
	100	Box	200,000	60	..	.....	Dec.	May '69	Thrall Car
	1,816	Tank	.....	..	..	.....	.....	1968	Various
Western Maryland	10	Box	200,000	60	8⅝	70,400	July	Dec.	ACF
	15	Ins. Box	140,000	50	6	78,000	Sept.	Dec.	Fruit Growers Express
Western Pacific	25	Box	200,000	86	6	.....	May	July	Thrall Car
	11	Box	200,000	60	..	.....	Sept.	Jan. '69	Thrall Car
Whitehead & Kales	100	Coil Steel	200,000	50	..	67,000	Apr.	July	Whitehead & Kales
Wisconsin Power & Light Co.	97	Hopper	200,000	53	9⅜	50,500	Oct.	Mar. '69	Magor Railcar

1968 FREIGHT-TRAIN CAR ORDERS—CANADA

Purchaser	No.	Type	Capacity	Length Ft.	Length In.	Weight	Ordered	Date of Delivery	Builder
Canadian General Transit	255	Tank	.....	..	..	.....	Jan.-Oct.	Jan.-Dec.	Hawker Siddeley
Canadian National	250	Box	140,000	50	6	60,000	Feb.	June/July	National Steel Car
	43	Ore	140,000	25	..	51,000	Mar.	Aug.	Marine Industries Ltd.
	150	Bulkhead Flat	140,000	51	6	63,000	May	Sept./Oct.	Marine Industries Ltd.
	200	Bulkhead Flat	140,000	51	6	63,000	Oct.	Jan. '69	Marine Industries Ltd.
	650	Box	140,000	50	6	60,000	Sept.	Jan./Mar. '69	National Steel Car
	300	Mech. Refrig.	140,000	44	..	80,000	Dec.	June/Aug. '69	Hawker Siddeley
	16	Box	200,000	60	..	.....	Aug.	Feb. '69	Thrall Car
Canadian Pacific	57	Hi-Cube Box	200,000	86	6	117,900	Nov.	Nov.-Dec.	Greenville Steel Car
	50	Flat	171,000	62	9	49,200	June	Sept.	National Steel Car
	50	Auto Rack	90,000	89	4	82,300	June	Oct.-Nov.	National Steel Car
	33	Auto Rack	90,000	89	4	88,500	Aug.	Dec.	National Steel Car
	50	Flat Container	200,000	81	2	56,000	Dec.	Apr. '69	National Steel Car
	43	Box	200,000	60	..	.....	Aug.	Apr. '69	Thrall Car
North American Car (Canada) Ltd.	69	Tank	.....	..	..	.....	Nov.-Dec.	Jan.	Hawker Siddeley
Pacific Great Eastern Railway	60	Wood Chip	140,000	65	5	54,200	May	Oct.	Hawker Siddeley
Wabush Mines	9	Ore Cars	207,000	33	1½	55,700	Jan.	July	National Steel Car
White Pass & Yukon	200	3-Unit Flat, Container	80,000	32	11	24,000	Aug.	June '69	National Steel Car
North American Car	150	Flat	171,000	62	9	48,400	Apr.	July-Sept.	National Steel Car
	2	Flat Container	176,000	62	9	43,500	June	Oct.	National Steel Car
	2	Auto Rack	90,000	89	4	82,300	June	Nov.	National Steel Car
	69	Tank	.....	..	..	.....	Nov.-Dec.	Jan. '69	Hawker Siddeley
	127	Cov. Hopper	200,000	54	4	59,900	June	Sept.-Oct.	Hawker Siddeley

1968 LOCOMOTIVE ORDERS

Purchaser	No.	Wheel Arrangement	Service	Weight Lb.	Horsepower	Order Date	Delivery Date	Builder
Aberdeen & Rockfish	1	B-B	Rd. Sw.	256,000	2,000	.....	June	EMD
Alabama State Docks	2	B-B	Sw.	250,000	1,500	.....	July	EMD
Atchison, Topeka & Santa Fe	40	B-B	Gen. Pur.	358,000	3,006	Mar.	June-July	EMD
Atlanta & West Point	1	B-B	Gen. Pur.	245,000	3,000	Apr.	July	EMD
	1	B-B	Gen. Pur.	245,000	3,000	Dec.	Mar. '69	EMD
Belt Railway of Chicago	2	B-B	Sw.	260,320	1,500	Jan.	April	EMD
Birmingham Southern	2	B-B	Sw.	247,000	1,000	Sept.	Jan. '69	EMD
Cambria & Indiana	2	B-B	Sw.	250,000	1,500	.....	June	EMD
Chehalis Western	1	B-B	Rd. Sw.	250,000	1,500	.....	.....	Alco
Chesapeake & Ohio/Baltimore & Ohio	9	C-C		392,400	3,000	Mar.	May	General Electric
	13	B-B	Rd. Sw.	266,000	3,000	.....	Oct.	EMD
Chicago, Burlington & Quincy	15	C-C	Rd. Frt.	386,000	3,600	Nov.	Jan. '69	EMD
	9	C-C	Rd. Frt.	370,000	2,250	Nov.	Jan. '69	General Electric
Chicago, Milwaukee, St. Paul & Pacific	5	C-C	Road	395,000	3,600	.....	Dec.	EMD
Chicago, Rock Island & Pacific	10	B-B	Frt.	256,000	3,300	July	Aug.	General Electric
	5	B-B	Frt.	275,000	3,300	Nov.	1st Qtr. '69	General Electric
Chicago Short Line	1	B-B	Sw.	250,000	1,500	.....	Sept.	EMD

(Continued on page 90)